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ABSTRACT

A five-phased project is described which was designed to develop more specific diagnostic procedures and instrumentation that would allow both the vocational counselor and the prospective student to determine more effectively specific occupational programs and occupational objectives for education at the postsecondary level. Phases of the project related to the specific project objectives, which are outlined: (1) To develop a methodology for the student to experience the nature of instruction and the environment in a selected occupational area prior to enrollment in a specific occupational training program; (2) to apply the methodology to six occupational areas (drafting, welding, automotive service, secretarial, machine shop, and practical nursing) by development of specific tasks and environmental conditions inherent in the occupation selected by the student; (3) to research and select instruments adequate to discover prospective student interest for an occupation; and (4) to apply the methodology developed under test or experimental conditions to a sample of prospective students applying for admission. Conclusions note the advantages of allowing students the opportunity to sample specific experiences and job related instruction and the advantages of using a variety of methods in student selection of an occupation and in an institution's admission process. Information on project evaluation, findings, and recommendations is included. (SH)

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INTERIM REPORT

THE DEVELOPMENT OF A VOCATIONAL DIAGNOSTIC PROGRAM

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OBJECTIVES OF THE PROJECT

1. To develop a methodology for the student to experience the nature of instruction and the environment in a selected occupational area prior to enrollment in a specific occupational training program incident to ultimate employment in that occupation.
2. To apply the methodology to six occupational areas by development of specific tasks and environmental conditions inherent in the occupation selected by the student.
3. To research currently existing instruments available to discern student interest in occupations. To select or to develop instrumentation or instruments adequate to discover prospective student interest for an occupation.
4. To apply the methodology developed under test or experimental conditions to a sample of prospective students applying for admission.

STATEMENT OF THE PROBLEM

Diagnostic procedures currently used by the Indiana Vocational Technical College are general and exist principally in the area of basic skills, such as reading and mathematics. The purpose of this project is to develop more specific diagnostic procedures and instrumentation that will allow both the counselor and the prospective student to determine more effectively specific occupational programs and concurrently occupational objectives. The nature of the project consists of the acquisition of better instrumentation to determine prospective student interest in both occupations and occupational training programs, as well as to develop a methodology to predict student success in the occupational area in which interest is indicated.

Currently counseling of prospective students at the Indiana Vocational Technical College is based essentially on background information supplied by the student and employer and on previous educational experiences. This is augmented by basic skills diagnostic testing consisting principally of reading and mathematics. These instruments, although valid, do not necessarily predict student success and ultimate occupational success in specific training programs. Additionally, students seeking admission to Indiana Vocational Technical College often have little, if any, valid information concerning the occupation they propose to pursue. We have found that after a student begins an instructional program, the environment of the occupation as manifested in laboratory experience is not to the student's liking. These circumstances constitute false starts and delays in the students reaching their ultimate objective. Great precision in, as well as expansion of, currently used diagnostic procedures for student counseling is an essential need for the Indiana Vocational Technical College.

PRIORITY AREA

This project is aligned currently with the priorities of the Indiana Research Coordinating Unit in that it serves the better placement of students in occupational training programs and subsequently in occupations according to the interests and aptitudes of students, as well as the areas in which students have the best probability of success.

STRATEGIES

1. General Design of the Study. The study is divided into five phases, as follows:

Phase 1. Review and research of the literature relevant to the project. As part of this review, currently available instruments for discovering prospective student interest for occupations or general classes of occupations is evaluated such as the Kuder Occupational Interest Survey, the Minnesota Vocational Interest Inventory. the Strong Vocational Interest, Interest Blanks for Men and Women, etc. Based upon review and evaluation of existing instruments, selection is made of instruments deemed most effective for the purpose of determining interest for students entering Indiana Vocational Technical College.

Phase 2. Development of simulated occupational learning and environmental conditions. This phase consists of the development for each of the following occupations and occupational training programs a series of learning tasks and experiences to simulate the nature of instruction the student would pursue in a training program as well as the environmental conditions the student would experience both in the lab as well as on the job. The six areas selected are drafting, welding, automotive service, secretarial (emphasis on typing skills), machine shop and practical nursing.

Phase 3. Assembly of test package. Phase 3 consists of the assembly of the research conducted in Phase 1 and Phase 2 into a test package consisting of diagnostic pre-testing and interviewing to determine which of the six test programs the student should enter and the particular program of simulations developed for each of the six programs within the test. As part of this phase, the instructors who conduct the simulations were oriented and trained in their functions in the project.

Phase 4. Conduct of the test. During the Summer of 1976, prospective students participated in the project that was conducted over a three-week period.

Phase 5. Evaluation. Although evaluation was conducted continuously throughout the duration of the project, Phase 5 consists of the assembly of outcome measures and the preparation of the project report to include all of the instruments and procedures that were developed.

2. Instrumentation. Instrumentation consists of three general forms. The first group of instruments covers the pre-testing devices including those currently being used by the College in the basic skills areas of reading and mathematics. The second group covers the instruments designed to discover students' occupational interests. Although not an instrument in the previous sense of the project, this group also includes a general outline for occupational counseling which is an inherent feature of this package and which employs the results of the pre-testing instrumentation as well as interaction with the student. The third group of instrumentation covers the tasks

and experiences to simulate for the student the learning and the environmental conditions associated with the occupational area selected as a result of the first two components of instrumentation.

3. Analysis Techniques. For the purpose of the test, outcome measures are based largely on the reaction of the students pursuing the test with respect to changes in perception as a result of the learning and environmental exposures and perceptions of instructors with respect to probability of success of students in programs and occupations selected. Subsequent analysis consists of tracking those students who enter IVTC in the Fall, 1976, in terms of actual success in the programs selected. This aspect of analysis will be a continuing process.

4. Time Phasing.

   Phase 1 ran from April 1, 1976 until May 1, 1976.

   Phase 2 ran from May 1, 1976 until June 1, 1976.

   Phase 3 ran from June 1, 1976 until June 20, 1976.

   Phase 4 ran from June 21, 1976 until July 15, 1976.

   Phase 5 ran from July 15, 1976 until March 31, 1977.

UNIQUE ASPECTS OF THE PROJECT: (Outcomes)

The unique aspect of the project is the use of a structured simulation of learning tasks and environmental conditions associated with the occupation initially selected as a result of pre-testing diagnostic procedures. The outcomes expected from this project are the development of a methodology which could be implemented throughout the Indiana Vocational Technical College.

ANALYSIS PROCEDURE

REVIEW AND RESEARCH OF THE LITERATURE RELEVANT TO THE PROJECT

Introduction

An exhaustive search of the literature was made, particularly from the last decade. Included was an ERIC probe provided by the main library, Indiana University, Bloomington. The most remarkable fact learned from this search is that there is virtually no literature on the exact same type of vocational diagnostic program which IVTC at South Bend has designed and implemented on this one-time experimental basis. Although hundreds of articles, books, and other printed materials such as personal communications, pamphlets, and manuals were examined, almost all of the information--even though some of it was very closely related--did not describe an identical enterprise or discuss the major specific details of most direct interest and relevance. It appears that this project involved breaking nearly unbroken ground.

The main distinguishing features of the experimental IVTC South Bend Vocational Diagnostic Project are: (1) It is designed to serve a post-secondary vocational-technical institution; (2) It is designed to serve any of the kinds of potential students who would be likely to apply for admission to regular programs of study at this public vocational-technical institution (or other institutions); (3) It is designed to go beyond the more traditional career exploration and vocational diagnosis (which utilizes paper-and-pencil psychological tests, and audio-visual and printed materials) and, in addition, provide a hands-on direct experience for the client in what it is actually like to study for given occupational clusters of jobs and to work at them; and (4) The work-study samples have been designed with specific educational outcome goals stated in advance and evaluated upon completion. The work/study samples are not merely a haphazard opportunity for observation.

A review of the major findings of the search which do appear to be useful or even necessary to consider for the purpose of designing the vocational diagnostic program follows.

I. Philosophical and Theoretical Considerations About Vocational Diagnosis and Career Exploration That Emerge From the Literature.

A. General Orientation

Gysbers, Drier and Moore describe some major shifts in thinking that have taken place in the vocational guidance movement over the past two or three decades. These shifts are of profound importance to this project. Three of them are:

> "1. The single-occupational-choice-at-a-point-in-time focus of the early practitioners of career guidance has given way to a broader, more comprehensive view of the individual and his development over the life span.
>
> 2. The specific age focus of traditional career guidance--the notion that an occupational choice is made once and for all during the middle or late adolescence--is not valid.
>
> 3. People at work are no longer seen only as objects through which occupations are analyzed and classified. Rather, we now understand that a work setting can be used as a medium to help people better understand themselves.
>
> It will be seen from these trends that it is now considered inadequate to view vocational guidance as an attempt, say, in the junior or senior year of high school, to measure the outstanding traits of the individual and to inform the individual what occupations are characterized by people with those same traits."[1]

The whole person is now considered, the work environment, a person's attitudes and values, his life plan, his background, etc. All are considered necessary to foster what is essentially for many people a long-term period (or "life stage") of exploration. The need for this exploration is described succinctly by Gysbers and Moore. They say:

> "The increasing rate and sophistication of industrialization, plus the increased time spent in school, has made meaningful contact with business and industry difficult for many youths. As a result, their concepts of the industrial and occupational world may tend to be diffused and distorted. Suffering in varying degrees from this occupational illiteracy, many youth find it difficult to make the transition from school to work. In an attempt to ease the process, vocational education has responded at the high school level with a variety of programs based on experience in actual work situations."[2].

Most major authors in the field stress the complexity of the problem, the need for it to be treated as a major educational issue, and the absolute necessity of providing persons at all stages of life with exploratory opportunities upon which to be able to make reasonably well-informed and intelligent occupational and career decisions. Super, one of the leading theorists of vocational guidance for years, claims that nearly half of all high school students after they leave high school will be engaged in a multiple trial exploration process in which they will have many jobs for short times. The fact that jobs are changed so often reflects not just merely a whimsical job market, but the fact that workers do not easily achieve satisfaction from many kinds of jobs and constantly have the feeling that jobs other than the one they are now performing may be more satisfying to them. It is this dynamic aspect to people's normal processes of choosing occupations and careers that must be stressed in any kind of vocational guidance program. Persons must be able to get a comprehensive view of certain kinds of occupations and other realities of the world of work in addition to understanding what their own strong traits may be and in what specific jobs people with those traits are found. Super succinctly summarizes this issue as follows:

> "When the study of the occupation is psychometic, it is on the stable characteristics of the occupation with consideration of time and sequence disregarded. Thus while the psychology of occupations has been essentially a static differential psychology, the psychology of careers is essentially a dynamic developmental psychology. Both, it should be clear, are needed. In stressing the need for psychology of careers, the intent is to combine it with the psychology of occupations in order to constitute a sound and workable vocational psychology, a psychology of vocational or career development, and thus to provide a more adequate basis for vocational counseling."[3].

What appears to emerge from these trends is the need to provide both psychological testing (together with a matching of the results of the tests with certain job characteristics), and a period of organized exploratory activity in which persons can learn by direct experience how they will function and how they will feel about different kinds of work.

Holland, one of the major figures in the field of vocational guidance and career guidance today, also stresses the need for exploratory activity as a vital and critical part of a valid career choice process. He says:

> "Along with making more information available, counselors need to encourage almost any kind of career exploration. The assumption underlying this orientation is that adaptive vocational behavior is a relatively normal process for most people if they have ready access to occupational information and if they can acquire sufficient experience to understand their interests, talents and competencies.
>
> Two general strategies for coping with vocational decisions and career exploration appear especially helpful: (1) provide as much information about vocational development and occupations as the person requests. (2) encourage exploration of alternatives for information and experience."[4].

Warren Cole, in describing the work of a career exploration program in Wyoming (which was established through a partnership of the U.S. Department of Vocational Rehabilitation, the Bureau of Indian Affairs and the Work Incentive Program), echoes the fundamental orientation of the need for exploratory activities by people searching to choose a satisfying occupation and career. He says:

> "Our premise is that people make a career choice and maintain employment based on their opportunity to explore the options available to them. Many persons have not fully explored the major occupational clusters, nor do they have the necessary information in such areas as job search skills, training programs, financial aids, utilization of state and federal agencies, and placement services. Having this information enhances their chances of making wise decisions and of obtaining employment that is both meaningful and financially rewarding."[5].

Warren Birch, in discussing the suddenly disabled worker, brings close to home the imperative need that exists for persons with limited job experience to be able to explore the world of work. It would appear that his comments concerning suddenly disabled persons apply equally to any type of vocationally naive person. Birch declares:

> "The newly disabled worker may need to explore occupational areas he has never before experienced or even imagined himself doing. The best way to help this individual is to provide him with information about jobs, and more importantly allow him to discover new information about himself through the same types of hands-on experiences that brought him to his first vocational choice. In this way, he can realistically assess his skills and interests for new occupations."[6].

This is the approach used by Birch and his colleagues at the Gateway Technical Institute in southeastern Wisconsin. They stress work sample activities for handicapped and newly disabled people.

Yet another advantage of exploratory activity is that many persons cannot and do not perform very well on traditional psychological paper-and-pencil tests. It has been found that this situation is not necessarily a handicap when the person who is weak in verbal areas can indulge in exploratory hands-on activities. Warren Birch, for example, mentions that clients with low reading ability who only use work samples and classroom tryouts of various kinds of work activities achieve adequate information from this process. In addition, Bonnie Morin, in an article describing the Jewish Employment and Vocational Service battery of work samples, says that "the disadvantaged student does not usually possess the abilities needed for the formal testing but is capable of working well in jobs where other criteria and skills are required. She goes on:

> "Where former evaluation was based on paper-and-pencil testing, by placing the student in specific jobs for part of the school day, by using non-standardized work samples, such as sorting colored buttons or taking apart and putting together a lawn mower engine, or by trying to equate performance in high school vocational technical classes such as auto shop with conditions in competitive employment situations, the new method gives the school district an organized system of observing the vocational adjustment of students. The new method is replacing the former ways of assessing a student's worker characteristics and vocational potential.[7]

II. Examples of Vocational Diagnostic Programs Reported in the Literature

Introduction

This section will be divided into reports of vocational diagnostic projects designed for three different populations: (a) Handicapped and disabled persons, (b) Secondary schools, and (c) Post-secondary schools. Occasionally, a project at the elementary level may be mentioned if there is some principle involved that seems to apply to the others.

A. Vocational Diagnostic Projects for Handicapped and Disabled Persons

A good example of vocational diagnostic programs designed primarily for assisting handicapped and disabled persons is the program of the Goodwill Industries of St. Joseph County, Inc., South Bend, Indiana.

The program is usually performed for clients and by clients who have been referred to it from other agencies. The program lasts for two weeks. During that time the clients take a number of psychological tests, work on some small jobs and talk with several people. Using all the information gained in these two weeks the client, the client's original counselor, Goodwill Industries' evaluator and other professionals working with the client decide together on vocational plans both immediately and in the future. There are four major components to the program. The first is a one-day orientation during which the clients are briefed about the program, its rules and regulations, and during which each client discusses with an evaluator his or her interests, goals and past achievements. The second phase is by far the major phase. This is a time when the clients perform work samples. The samples in this phase are primarily the work/sample tests developed by the Jewish Employment and Vocational Service (JEVS) in Philadelphia, Pennsylvania. The JEVS work samples, to quote from JEVS' own descriptive literature, "are activities performed in a simulated work setting, which reflect the primary factors inherent in actual jobs. A battery of work samples, arranged in a hierarchy of increasing complexity, allow for evaluation of performance, interest, and work behavior. The results are directly related to worker trait groups in the Dictionary of Occupational Titles. Work samples expose clients to a variety of vocational possibilities. They are particularly valuable in assessing the potential of persons for whom standard paper-and-pencil tests are inappropriate. The work samples focus primarily on fundamental worker traits such as finger dexterity, eye-hand coordination, color discrimination, etc., for the purpose of determining the extent to which the client possesses skills which are related to particular jobs. There is a very elaborate and rigorous methodology employed in the administration of these tests and in the evaluation of the client's performance. Evaluators are required to have at least a two-week training session at the JEVS office in Philadelphia.

The third phase of the Goodwill program involves special education testing during which the level of achievement in school is tested in the areas of vocabulary, spelling, reading and arithmetic. Finally, the fourth phase consists of psychometric testing which includes intelligence testing, interest inventory, dexterity survey and other such tests, paper-and-pencil and otherwise.

The work sample as it is found in the JEVS battery and most commonly in all other vocational diagnostic programs of this kind simulates but does not actually duplicate the performance of certain tasks on a job. The work sample seeks to measure the ability of the client to perform certain fundamental tasks. A good description of work samples is provided by the Minneapolis Rehabilitation Center. According to them:

> "A work sample is a well defined work activity involving tasks, materials, and tools which are identical or similar to those in an actual job or cluster of jobs. It is used to assess an individual's vocational aptitude, worker characteristics, and vocational interests. As a sample of work based upon a job analysis, the work sample approximates a real life job more closely than does psychological testing. The work sample should simulate the complete range of work activities (motions, mental functioning, performance demands, operations, and use of materials and equipment) of which a particular job or occupational group is comprised.
>
> The objective in using work samples is assessment of job skill potentials and work related behaviors. This assessment can be accomplished to the extent that the work sample does not differ

> in its essentials from the kinds of activities a worker would be required to perform in an actual job.
>
> Work samples can be classified as: actual job samples, simulated job samples, cluster trait samples, and simple trait samples.
>
> An actual job sample is a sample of work that has been taken in entirety from an occupation and brought into the evaluation unit."[8]

As close as some of the work samples approximate the actual job conditions, they have several drawbacks: (1) they are performed in an artificial laboratory setting; (2) they typically relate to only one particular kind of job; and, most importantly, (3) certain environmental elements of the working conditions such as supervision, the presence of co-workers, the presence of typical noise levels, smells, fumes, temperatures, and so on are not duplicated and therefore the reaction of the client to them cannot be evaluated.

A second program for the handicapped or suddenly disabled is found at the Gateway Technical Institute at Southeastern Wisconsin. What follows below is a long excerpt from an article by Warren Birch which describes in some detail vocational evaluation at Gateway Technical Institute.

> "Faced with a relatively large special needs population in a three-county area, and the shortcoming of traditional testing methods, Gateway Technical Institute in Southeastern Wisconsin incorporated the technology of work sample vocational evaluation into its programming. Through this technology, Gateway Technical Institute has in effect added a behavioral approach to career planning, which it makes available to the school's Student Services.
>
> The two focal points of vocational evaluation at Gateway Technical Institute are (1) work samples and (2) classroom or job tryouts.
>
> A work sample is a close simulation of an industrial task, a business operation, or an occupational area. It can be as

simple as stamping envelopes or as complex as operating a keypunch machine. It may be completed in ten or fifteen minutes or require three to five hours to complete. Usually the work sample is normed on workers in industry doing the actual work.

Work samples emphasize performance rather than verbal skills and thus are more effective with clients who have low verbal abilities. Work samples can provide practical hands-on experience in a number of occupations in a relatively short time (the client likes it or he doesn't), and because of their work-relatedness, they tend to create less anxiety than a paper-and-pencil test.

Work samples are, however, expensive to purchase or develop and expensive to maintain. Some types, such as those that attempt to measure only one particular trait, may not be wholly related to a real job and consequently may be rejected by some clients. . . . Gateway Technical Institute chose to purchase the Singer/Graflex and the JEVS batteries because of the close relationship of the work samples to the training programs operated by the district, which in turn are based on the community's needs for workers. The attractiveness of packaging and the filmstrips and cassette tapes (which permit a greater degree of self administration) were also considerations in purchasing the Singer/Graflex system.

Occupational areas represented in this system are basic tools, bench assembly, cooking and baking, drafting, electrical wiring, engine servicing, health services, masonry, needle trade, office and sales, plumbing and pipefitting, refrigeration, heating, and air conditioning, sheet and metal work, soldering and welding.

The Singer/Graflex battery allows the participants to feed back to the evaluator on several occasions during each work sample procedure. First the participant is oriented to the tools at the work stations by viewing the filmstrip showing various occupations that use the tools and by listening to a cassette tape recording that explains the job duties in those occupations. The client is then asked to check a rating form to indicate whether he would like to do the work he saw performed in the picture.

After he is taken through a work sample, step by step (using the actual tools and materials at the work station), he is again asked if he would like to do this type of work. He is also asked to rate himself for speed and quality of work on a scale of one to five.

The evaluator then rates the participant in the same way and compares his score with the norm group of 100 others who have completed the same work sample.

> The work samples thus give the participant an opportunity to explore different occupations, to change his mind along the way, try something else, and finally determine his interest. At the same time the rating determines his skill levels in the occupations he has tried. The participant gains information about jobs, and through the hands-on experience, information about himself in relation to the job. [See text above for discussion of the JEVS system.]
>
> The second focal point of the Gateway Vocational Evaluation Program is the classroom or job tryout which takes place in either a classroom setting (for example, the welding shop or the typing class) or on a job in the community. Since no work sample system is completely comprehensive as to occupation or level of task difficulty, the tryout serves as a supplement. In most cases, it is predetermined by an interview, interest test, or work sample, and is an extension of client's evaluation plan. The instructor or job supervisor provides feedback to the vocational evaluator via a rating form or conference, and this information is included in the client's vocational plan.
>
> The classroom tryout has the added advantage of placing the evaluation in the vocational school setting. Because of the variety of tools and equipment available in the school's training programs, it extends both the client and evaluator's opportunity to gather necessary data."[9].

The clients are referred to the Gateway Program by such sources as the Wisconsin Division of Rehabilitation, social service agencies and school counselors. A few "referrals" walk in on their own. The program appears to have fairly high effectiveness. For example, during the first twelve months of operation 308 handicapped persons were referred to Gateway. Two hundred thirty-six (236) completed their evaluation plan, 23 failed to show up, and 49 dropped out.

B. Vocational Diagnostic Projects Serving Secondary Schools

The literature describes a great variety of "career-exploration" programs which involve in varying combinations mini courses on occupations, courses on occupations, individualized complex modules of one kind or another on occupations, and assorted group experiences. The general nature of these career exploration programs is traditional, utilizing curricular materials which allow the student to learn about himself/herself and which allow the student to read about or observe in movies or filmstrips various occupations and occupational clusters. The key ingredient which is missing in most (but not all) of them is the ability for the student to experience first-hand what working at these various jobs or what learning them is actually like. (A list of representative reports on secondary-level career exploration projects is included in the references at the end of the text.)

One experience-based program is known as "The Community is the Teacher - Experience-Based Career Education" (EBCE). EBCE was developed by the National Institute of Education and is reported in a pamphlet published by them in 1975. This pamphlet describes the aim of experience-based career education. In part, it says:

> "The aim of EBCE is not to replace the classroom but to supplement it, to extend it into all spheres of our existence--personal, academic, personal, occupational--to bring learning, living and working much closer together. EBCE is an attempt to take the subject matter that students need to study, add many new ingredients (about people, jobs, self, and usually the ways communities work) and let high school students learn about them out in the community through direct experience with adults in all walks of life.
>
> In the process, students obtain academic credit, explore the real dimensions of many careers, learn much about who they are and what they want to become and master some of the skills they will need to negotiate successfully the world of adult living in America today.
>
> Direct experience with many adults as they perform their daily activities is the key to the EBCE concept. Students studying politics test their new knowledge against the practical insights of legislators, judges, city managers and policemen. Students interested in a career in ecology study and work alongside scientists, technicians, investigators and secretaries. They discover that "ecology" is many jobs rather than one, that each job has its boredom and excitement and that the specific ecology careers that

> turn them on may require far more (or far less) education and experience than they expected. . .
>
> What distinguishes EBCE is the way it merges the worlds of work and school. The same learning activities that help students explore various careers also provide them with comprehensive secondary education. Using the entire community as a school, EBCE exploits the fact that human experience does not divide itself conveniently into compartments called "courses" or "subjects". EBCE enables a student to develop academic, occupational and social skills as they interrelate in real life. . .
>
> The key to the learning process is the adult working in any local community environment--someone willing to share occupational know-how and seasoned knowledge of the real world with an interested student.[10]

The other key ingredient (in addition to using the real world as a school) is the use of self-conscious exploration as a method of education. Students are not only allowed but encouraged, in fact, they are required to explore the community, and to explore a number of different occupations in the community before they decide together with faculty what kinds of things they will try out in connection with their own particular custom-built exploratory plan. The plan for exploration essentially becomes the plan for education in that the exploration is the essential learning device and it is designed with specific goals in mind. Virtually all of the first-year graduates of EBCE projects to date have expressed the opinion that EBCE prepared them for work. Ninety per cent of the students indicated that they gained insights that helped them secure jobs in the future and almost without exception the graduates stated that EBCE prepared them to understand themselves better and to deal more effectively with others. Experience-based career education as an alternative secondary school program is still in the pilot stage in less than ten locations throughout the United States.

The Fargo, North Dakota Public Schools instituted in 1975 a program called the "Mission Possible" Program. To quote from a letter from Jim Kortan, Mission Possible coordinator:

> "Mission Possible is a career education program designed to help students gain an insight into a career interest area. This insight is gained by taking the students from the classroom and placing them out into the world of work so that they can see first-hand what takes place at the career they are considering. The knowledge and awareness a student gains will come primarily from the observation and visitation at the career site. During the first five months of operation Mission Possible served 480 students in 125 different career areas from schools throughout Cass County.
>
> To this point in time, students have been using the observation-interview approach to gain the information they want about a particular career area. We are just starting to implement a new dimension to the program, and that is one of providing "hands-on" or actual work experience without pay. The biggest hang-up we have had in the past is in attempting to get employers to let the students actually perform a job task--has been the question of liability if a student should become injured on the premises of a participating business. Because there was no pay involved, an employer-employee relationship did not exist and therefore there could be no workman's compensation benefits. Now, however, the 1974 Legislature passed permissive legislation which allows the workmen's compensation coverage for our students."11.

The Milford campus of the Southeast Community College in Milford, Nebraska, offers a series of mini courses to 9th through 11th grade students in Educational Service Unit Number 6 of the State of Nebraska. The Milford campus has offered these mini-courses in a variety of settings--one-day, two-day, during the regular academic year, during vacations, summers, etc. Below is an excerpt of a recent notice sent out by Educational Service Unit Number 6 to superintendents, guidance counselors and vocational education departments in Nebraska counties involved.

> "ESU Number 6 has made arrangements with the Milford campus of the Southeast Community College to offer exploratory mini courses similar to the summer programs of 1973 and 1974. The

mini course will be approximately four hours in length and will begin at 4:30 p.m. on Monday, April 5, 1976.

The objective is to provide interested students with hands-on experiences in an occupational area. Exploration is the main objective, and we encourage your students to enroll in courses which will be exploratory to them as certain areas, i.e., automotive will be unable to honor all requests. This hopefully will provide the student with another experience in his career decision making process. We are welcoming all girls who are interested in these courses also.

33 mini courses will be provided for students by the college staff. Many of the courses are limited in the number of students they can effectively handle. Each student will indicate his first and second choice and will be enrolled on a first-come first-served basis. All counselors, instructors and administrators are encouraged to attend and observe the students in action.

There will be no tuition fee for the students who will be involved in this exploratory program. Each student will be responsible for paying for their transportation to and from Milford as well as meal expenses.

C. Vocational Diagnostic Projects Serving Post-Secondary Institutions

The purpose of this section is to present as detailed a picture as is practically possible about one model of vocational diagnostic program. Two programs will be described. Because institutions themselves have described these programs succinctly in their own publications, instead of attempting to paraphrase the publications they will be excerpted below. The first program to be described is called "Adult Career Exploration" which is located at the Central Wyoming College in Riverton, Wyoming. Excerpts of their description of the program follow below:

"Introduction -

Various Manpower programs originating by Congress in the 1960's have had a decided effect on vocational-technical training programs in community colleges. The results have been positive for the most part, but the programs have not been without problems. The Manpower Legislation was dedicated to the training of those members of our society who for one reason or another lacked the necessary job skills to compete in the job market. It was also dedicated to the re-training of individuals whose job skills had become obsolete through technological change. Several government agencies including HEW, EOL, the Manpower Training Act (MDTA), Dept. of Vocational Rehabilitation (DVR), and the Work Incentive Program (WIN), were charged with administering the programs and for the most part contracted with educational institutions to do the training. Perhaps the most difficult task of the government agencies has been helping individuals to make suitable career choices. They have largely depended on their counseling staffs, aided by the General Aptitude Test Battery (GATB). Although these counselors have done a creditable job, they have been handicapped by lack of time and resources to do the indepth counseling necessary to deal with many of the individuals involved.

A large portion of the people these programs were designed to serve had limited work experience and little knowledge of the world of work upon which to base a career choice.

At the suggestion of and with the help from the Manpower Development Training Act (MDTA) personnel, Central Wyoming College developed a proposal for an Adult Career Exploration Program. The purpose was to deal with those cases which the agency counselors judged to need more indepth attention. The project was funded on July 1, 1972, by a purchase of services contract with MDTA. It has since become a project of inter-agency cooperation. The Department of Vocational Rehabilitation (DVR), the Bureau of Indian Affairs (DIA), and the Work Incentive Program (WIN) have participated both by cross-funding and by making individual referrals to the Career Exploration Program.

Philosophy and Purpose -

Our premise is that people make a career choice and maintain employment based on their opportunity to explore the options available to them. Many persons have not fully explored the major occupational clusters, nor do they have the necessary information in such areas as job search skills, training programs, financial aids, utilization of state and federal agencies, and placement services. Having this information enhances their chances of making wise decisions and of obtaining employment that is both meaningful and financially rewarding. The Career Exploration Program attempts to provide an opportunity for those who have not made a satisfactory career choice.

This program utilizes the open entry, open exit concept which allows a continuous flow of students through the program and encourages students to become involved in the program. It also commits and encourages students to have a positive influence on one another and on the program itself. In the beginning it was planned to start a new group of students every six weeks, but in order to meet the students' needs, it soon became apparent that it was necessary to accept them into the program at their convenience. This has turned out to be one of the strongest aspects of the entire program. Where it originally took from one to two weeks to fully orient the new students, orientation is now largely taken care of by the cadre of remaining students and is accomplished in a much shorter time.

Individualized instruction is also a very necessary part of the program because of the vast differences in the students' abilities, experiences and interests.

The program utilizes the resources that are available in the community through various private businesses, professionals, and government agencies. Nearly 300 such individuals and organizations in Fremont County cooperate with the Career Exploration Program to the extent that a student may be placed in their organization for from a few hours to several days in order to become familiar with the realities of the job. In this way, students gain more realistic experiences in exploring possible careers. Duplication of Services is avoided, and the students are offered positive situations for dealing with persons in the real world of work.

The program purpose is to serve any adult from the State of Wyoming who is dissatisfied or unsure of his career choice. Primarily, the students in the program have been referred by federal, state and local agencies that are involved in the employability of their clients. The attempt is made to assist each student to recognize his abilities, aptitudes and interests and to provide information in order that he can make a realistic career choice and set short and long-term goals necessary to obtain employment that is both meaningful and financially rewarding.

After the student is able to decide on a goal and is reasonably sure where he wants to be at a given future date, he sits down with a staff member and develops a "road map" for reaching his goal. This might include such things as personal development, training, basic education, job search and interviewing.

Process and Program -

The average time spent in the program for each person is six weeks, but varies according to individual needs. The open entry system allows students to enter the program on any Monday morning. Enrollment is limited only by the program's ability to handle fifteen students at one time.

Each student spends two hours a day at the Learning Skills Center at Central Wyoming College. The purpose of this is to evaluate each student's achievements in the basic educational areas and to assist each in improving his fundamental skills and study habits.

The remaining six hours each day are scheduled according to the individual interest of the students. During the first two weeks students sign up each afternoon to spend the following day with any of the 27 exploratory areas available at the center. During these two weeks, students are encouraged to spend some time in as many different areas as possible. Throughout the six weeks, counseling sessions are a regular part of the program with counselors available at all times. Other supportive services are available through some 19 cooperation social service agencies.

During the third and fourth weeks in career exploration, students spend time in the outside placement program. Each student is expected to select a number of careers in which he has some interest. Arrangements are then made with private business, institutions, government agencies or professionals, who employ people in these career areas, to place the students in their organization for the time necessary to get a general orientation to the field. At the present time there are 285 such organizations cooperating with the program. During the time spent in outside placements the students are charged with collecting additional information from the center's extensive occupational library.

During the latter part of the program the student is asked to make a decision about his career choice. The staff assists in any way possible in the decision making process. The student must then establish any intermediate goals that are necessary to attain this career. During the last week of the program the students also receive information and counseling in the job-related areas such as job search skills, availability and cost of training, problem solving, grooming and inter-personal relations.

A written evaluation of the student's strengths, aspirations, limitations, and stated goals--along with a recommended program--is prepared cooperatively by the student and the staff. This report is forwarded to the referring agency to help guide them in further work with the student.

A follow-up service is maintained by the Career Exploration Center whereby additional services are made available to aid students in attaining their goals. . . .

Follow-Up and Evaluation -

A follow-up of the 161 students served by the Career Exploration Center reveals the following information:

1.	Employed in related jobs	31
2.	Employed in non-related jobs (related and non-related refers to goals and recommendations reached in the program)	31

3.	Training in related fields	47
4.	Training in non-related fields	5
5.	Homemakers (dropped from the labor force	12
6.	Unemployed (looking for jobs)	24
7.	Dropped or refused training	3
8.	Whereabouts unknown	8

> The Manpower agencies involved in the Career Exploration Program feel that the results justify the costs--approximately $100 per week plus the cost of maintaining the student. A number of their counselors and administrative personnel have stated that their ratio of success has been increased through the use of the Career Exploration Program, although I know of no comparative study yet conducted.
>
> The value of the program to Central Wyoming College can more readily be quantified. 36 students enrolled in the college during the 1973-74 school year after completing the Career Exploration Program. 3 of these students enrolled in law enforcement, 5 in electronics, 1 in radio-TV, 6 in accounting, 8 in general clerical, 1 in agriculture, 2 in humanities, 1 in education and 5 in general studies."[12]

The Vocational Diagnostic Program at the Williamsport Area Community College in Williamsport, Pennsylvania, appears to be the closest to a "model" program of which we are aware for designing the Vocational Diagnostic Project at IVTC-South Bend. Their succinct description of their program follows:

> "The Vocational Diagnostic Program at the Williamsport Area Community College is a three-week program designed to assist students in career selection. Originated in 1951, the program was specifically designed to serve physically handicapped persons sponsored by public and private rehabilitation agencies.
>
> Since 1951, the size of the diagnostic group has expanded, and increasing numbers of non-disabled people are participating in the program. Many of these non-disabled students are referred by high school guidance counselors, by college guidance departments, or by parents who are concerned about their children's vocational future. The goal of the diagnostic program is accomplished primarily through individual and group counseling sessions and actual job trials in the various shops. Most of the first week is devoted to orientation, to the provisions of vocational information, and to aptitude testing. Students are conducted on tours of the many shops and classrooms, the goals of the diagnostic program are discussed, and the value of testing and the meaning of test results is explained. Occupational information is given about more than 25 trades by instructors who explain their

particular fields. Such factors as educational and training requirements, employment opportunities, physical demands of the job, and wage rates in various geographical areas are discussed. Psychological tests are administered to assess the students' abilities and aptitudes. In some cases, further testing and special counseling is provided.

The first job trial begins on Friday of the first week and is selected by the student without benefit of test results. During the three-day period of the first job trial, a counselor meets with each student to discuss test results and their implications for vocational planning. Subsequent job trials are then planned with respect to the student's abilities, interests, aptitudes, and educational and vocational background.

Throughout the nine-day period of job trials, a counselor is in daily contact with each student to discuss problems and answer questions. The last one and one-half days of the diagnostic program are devoted to separate case conferences. All factors pertinent to the individual's vocational choice are considered and recommendations are made to the student or the sponsoring agency.

Tuition for the program is $90. Residents of participating school districts will pay one-third of this amount, while other Pennsylvania residents will be required to pay two-thirds of the tuition. Room and board in private boarding houses near the college is available for approximately $23 to $25 a week. Arrangements for room and board will be made by the college upon request."[13].

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DEVELOPMENT OF SIMULATED OCCUPATIONAL AND ENVIRONMENTAL CONDITIONS, AND ASSEMBLY OF THE TEST PACKAGE

(Phase II: Development of simulated occupational learning and environmental conditions. This phase consists of the development for each of the following occupations and occupational training programs a series of learning tasks and experiences to simulate the nature of instruction the student would pursue in a training program as well as the environmental conditions the student would experience both in the lab and on the job. The six areas selected are drafting, welding, automotive service, secretarial (emphasis on typing skills), machine shop and practical nursing. (Phase III: Assembly of test package. Phase III consists of the assembly of the research conducted in Phase I* and Phase II into a test package consisting of diagnostic pre-testing and interviewing to determine which of the six test programs the student should enter and the particular program of simulations developed for each of the six programs within the test. As part of this phase, the instructors who will conduct the simulations will be oriented and trained in their functions in the project.)

*(Phase I: Review and research of the literature relevant to the project. As part of this review, currently available instruments for discovering prospective student interest for occupations or general classes of occupations will be evaluated such as the Kuder Occupational Interest Survey, the Minnesota Vocational Interest Inventory, the Strong Vocational Interest, Interest Blanks for Men and Women, etc. Based upon review and evaluation of existing instruments, selection will be made of one or more instruments deemed most effective for the purpose of determining interest for students entering Indiana Vocational Technical College.)

(1) Basic Orientation

Far too often people choose a course of study or an occupation without a sufficient basis for making the choice. They know little about the requirements or the working conditions of a job, or what it's like to prepare for entry into that job. It is thought that with a combination of various kinds of testing and exposure to conditions which simulate the training program and the working conditions under which given jobs are performed that persons will be able to acquire a much more valid basis for making occupational choice than they would otherwise have.

The proposal for the Vocational Diagnostic Program refers to "such hands-on opportunities as simulated occupational and environmental conditions." In the text of this document, the term will be changed to "work/study sample" for economy of expression. Work/study sampling is considered to be a form of testing, probably a much more valid form than any other (such as paper and pencil tests) to determine the extent to which the characteristics of the client match the requirements of studying and working at a given occupation.

The work/study samples are designed to allow vocationally naive and undecided persons to actually experience the activities involved in learning about and in performing a number of jobs, and from that experience to strengthen their potential for making intelligent study/career choices.

(2) History of Work/Study Sampling

As we have seen in the first chapter of this report, the literature which describes the very few work/study sample projects which have been attempted in the last few years in the United States shows that virtually none of the programs have been designed to meet the needs of the IVTC system, or to accomplish the same goals as this Vocational Diagnostic Project. Generally, other work/study samples have been designed for two basic client groups: (a) physically handicapped or suddenly disabled persons, particularly although not exclusively veterans, and (b) students in junior and senior high schools, particularly but not exclusively in vocational training programs. Little work in this area has been done to design a work/study sample program to be used by a local post-secondary vocational training institution to (A) serve any of the potential kinds of students who may apply for admission to certificate or degree programs, or (B) to assist both the potential student and the educational institution in selecting that course of study from which the student would most likely benefit. The work/study samples in this vocational diagnostic project have been designed to fill both of these gaps and meet both of these needs.

(3) Direct Observation of Work/Study Sampling Programs Now in Operation Elsewhere.

(A) Goodwill Industries, South Bend, Indiana.

The principal investigator and project director visited Goodwill Industries and observed personally the administration of two typical forms of job sampling now found throughout the United States and used very commonly in the testing of handicapped persons--the Jewish Employment and Vocational Service (JEVS) tests, and certain sub-tests of the Singer Vocational Evaluation System. These tests purport to simulate--in a very expensive, time-consuming manner--but do not actually provide direct experience in the environment of the study or performance of a given occupation.

(B) Williamsport Area Community College (WACC), Williamsport, Pennsylvania.

The Project Director and the Principal Investigator spent a day touring many of the educational facilities for the twenty-seven (27) different occupational clusters that Williamsport Area Community College (WACC) offers. WACC has had a small vocational diagnostic program in operation since 1951. It appears that the WACC program is the model program, now in existence, for the purpose of this project in South Bend. WACC is under contract with state agencies dealing with veterans, and with rehabilitation service people. Those agencies have referred clients to the WACC vocational diagnostic program and currently pay WACC approximately $90.00 for each client they serve. Instructors there told us about the kinds of skills and attitudes they like to observe in vocational diagnostic clients in order to determine an evaluation of each one. Many of their suggestions are incorporated into the design of the work/study samples in this project. It is noteworthy that even after twenty-five years of existence, the WACC program is not formalized or systematized. No specific outlines of work/study sample experiences exist. Each client is treated as a unique case and is treated more or less informally and in almost a haphazard fashion compared to what we are proposing for the IVTC vocational diagnostic project. In short, the work/study sample experience at WACC consists basically of an informal observation/guided tour together with some informally divised hands-on experiences which may be different from client to client.

(4) Distinctive Features of the IVTC-South Bend Vocational Diagnostic Project Work/Study Samples.

(A) Location. Our work/study samples are located in Indiana. They are designed to meet the local needs of Indiana citizens and the local public post-secondary vocational-technical institution. With some experimentation and refinement, they can serve as a model for the entire IVTC system.

(B) Clients. The IVTC-South Bend work/study samples are designed to serve the full spectrum of clients in terms of age, previous education, previous job experience, etc., who are likely to apply, and who would be admissible into IVTC certificate and degree programs. This project does not serve just a special group, such as the handicapped or the high school student, as has so typically been the case with the few other career exploration projects in the United States about which we are aware.

Three criteria are utilized in determining eligibility for clients for admission into the IVTC-South Bend project. These constitute the minimum possible degree of selectivity which can identify the ability levels which simply are necessary to perform the work/study sample tasks.

(1) A client must be physically able to perform the work/study samples.

(2) A client must achieve a certain level of competence in reading and mathematics. These levels are specified by the faculty in each area of study based upon the experience their division has had with former students who have sought to complete IVTC programs in the given area of study.

(3) A client should be vocationally naive and very uncertain about what educational and occupational path to follow.

(C) Design of the Work/Study Samples. The IVTC-South Bend work/study samples do not consist merely of haphazard observations, guided-tours, or random hands-on experiences. Rather, they are carefully designed to be an appropriate learning experience for the client and the staff of IVTC. The client will learn about himself/herself, about several kinds of occupations and programs of study in those occupations, and about how he/she relates with the occupations in which work/study samples are performed. The staff at IVTC will learn about possible methods for identifying and selecting students who are likely to succeed in certain local programs of study and consequently in the performance in certain occupational areas. Furthermore, experience with this program can provide valuable bases for the development of improved student advising at IVTC. The appropriate advising of potential students is a critical and fundamental function of a post-secondary vocational-technical institution, and a function very often found to be in need of improvement almost everywhere in the nation. (Simply an increase in staff would act to improve some small, over-worked staffs.)

The work/study samples are based upon specific learning outcome objectives clearly stated in advance. Each client is evaluated on each objective.

Each objective is stated in terms of Bloom's taxonomy of educational objectives, a classification scheme rapidly becoming relatively standard in American education. Clients can be shown, in advance, the kinds of behavior they will be expected to perform in each work/study sample, and the specific factors of their performance upon which they will be evaluated. Thus, both the client and the instructor can approach the work/study experience with similar expectations for the client. Replication of the study by others elsewhere is also facilitated.

The work/study samples in each occupational area are the products of teams of designers. The principal investigator first met with all the involved divisional chairmen. At this session the entire idea of the project was described, and initial reactions and general ideas and questions generated by the initial reactions were discussed. All chairmen endorsed the participation of their faculty in the project on this occasion.

Next, the principal investigator held separate meetings with each division chairman together with the faculty from that division who were to act as the instructor(s) in that division's work/study sample. The whole project was discussed again, and instructors were given some bases upon which to think about possible work/study sample designs.

Finally, the principal investigator held separate meetings with just the work/study sample instructors in each program of study represented in the project. On these occasions, details were worked out together of each work/study sample to the point where each instructor expressed his readiness to hold the work/study sample immediately, if necessary, and where the principal investigator had enough specific information about the proposed work/study sample to describe it in writing in detail, and to identify the critical skills and the major work elements involved in performing the work/study sample.

Meanwhile, the principal investigator had been researching commercially available paper-and-pencil aptitude and interest tests which could provide yet another measurement of the extent to which the clients' performance of certain skills and work elements critical to each occupation and program of study could be predicted.

(D) Review of currently available standardized instruments. The following instruments for assessing interests and/or aptitudes were reviewed:

1. Assessment of Career Development, The
2. Bennett Mechanical Comprehension Test
3. California Occupational Preference Sruvey
4. California Psychological Inventory
5. Career Maturity Inventory
6. Differential Aptitude Test (DAT)
7. Educational Interest Inventory
8. Flanagan Aptitude Classification Tests
9. Flanagan Industrial Tests
10. Hall Occupational Orientation Inventory
11. Hay Clerical Test Battery
12. Holland Self-Directed Search, The
13. Junior Eysenck Personality Inventory
14. Kuder Occupational Interest Survey - Form DD
15. Minnesota Importance Questionnaire
16. Minnesota Vocational Interest Inventory
17. Ohio Vocational Interest Survey
18. Strong Vocational Interest Blank
19. Vocational Planning Inventory
20. Work Values Inventory

In addition, the following instruments, now in use at Indiana Vocational Technical College - South Bend, were also reviewed:

1. Educational Testing Service's Comparative Guidance and Placement Program Test (CGP);
2. The Reading for Understanding Placement Test, by Thurstone;
3. IVTC - South Bend Arithmetic Diagnostic Test;
4. IVTC - South Bend Architectural Drafting and Industrial Drafting Algebra Diagnostic Test (9/75);
5. IVTC - South Bend Electronics Department Program Diagnostic Test (8/75).

In addition to formal reviews, the principal investigator also consulted with local recognized experts in the areas of vocational and career education and testing. Included in this group were Mr. Paul Elliott of the Indiana Career Resource Center and Professor Gerald Dudley and Professor Eldon Ruff, both of Indiana University at South Bend. (Both Dr. Dudley and Dr. Ruff are also associated with the Indiana Career Resource Center.) A visit was made to Goodwill Industries where discussions were held with the psychometrists and where the administration of the Jewish Employment and Vocational Service (J.E.V.S.) work sample test battery was observed. Discussions were held with Professor Vincent Peterson, head of the counselor education program at Indiana University at South Bend and head of the counseling center there. A discussion of this whole issue was held with the project's Steering Committee, consisting of:

Dr. Gerald O. Dudley, Associate Professor of Education, IUSB, and Director, Indiana Career Resource Center;

Dr. Samuel R. Weirsteiner, Director of the Division of General and Technical Studies, IUSB;

Mr. Ed Robison, Goodwill Industries of Michiana, Inc.;

Mr. Lewis Powell, Director - Adult and Vocational Education, South Bend Community School Corporation;

Mr. James Wells, Director of Student Affairs, IVTC-South Bend, and Project Director;

Mr. Thomas Fujimura, Director of Recruiting and Placement, IVTC-South Bend;

Dr. William W. Barnard, Principal Investigator.

ROLE OF TESTS --

It should be emphasized here that in any vocational counseling process paper-and-pencil tests and test results are considered to be subordinate to other elements in the choice process. The most significant factors leading towards a valid choice by the client are considered to be (1) the client's active participation in learning about himself/herself and about the world of work and about how the two can relate to each other: and (2) the counseling relationship which is developed between the client and the counselor which, if satisfactory, facilitates an objective search. Therefore, the selection of test instruments should be regarded primarily as a selection of mere tools which will aid but not replace the counselor and client in their relationship.

The IVTC Arithmetic Diagnostic Tests and the Thurstone Reading For Understanding Placement Tests were utilized as a screening device for the Vocational Diagnostic Project. Applicants were expected to score at levels predetermined by appropriate divisional faculty and chairmen as a condition of acceptance into the project. In addition, clients wishing to take the work/study sample in Licensed Practical Nursing took the Comprehensive Guidance and Placement Program Tests. This procedure provides the minimum level of selectivity in order to assure that candidates can benefit from instruction at IVTC-South Bend.

SELECTION OF INSTRUMENTS --

It had been established before the review that important criteria for the selection of instruments would include: (1) the ability to immediately score the instrument by hand on the spot; (2) economical price; (3) the existence of a large normative population, comparable in major characteristics with the student body at IVTC-South Bend. Bearing in mind these criteria, several well-known and popular instruments had to be immediately eliminated from consideration, including the Differential Aptitude Test, the Hall Occupational Orientation Inventory, the Kuder Occupational Interest

Survey - Form DD, the Ohio Vocational Interest Survey and the Strong Vocational Interest Blank. The Strong also had to be eliminated on the grounds that it is oriented toward professional and four-year college graduate occupations, and uses mostly four-year college students as its normative population.

The Minnesota Vocational Interest Inventory was rejected on several grounds. Among these: the items tend to assume knowledge of occupations, an assumption which cannot be made with the client population of the Vocational Diagnostic Project. Furthermore, only two of the six occupational clusters referred to in the Vocational Diagnostic Project are identified by this instrument. And finally, there appear to be considerable difficulties in interpreting results from this instrument.

The California Occupational Preference Survey, although avoiding being predominantly a four-year college oriented instrument, provides very little information on norms and validity. One value which the test is thought to have is that people who take it can learn much about their own interest and about the world of work and vocations from the very process of taking the test, scoring it, and attempting to interpret the scores. This applies to other instruments as well, however. A review in the Seventh Mental Measurements Yearbook concludes with the thought that "there seems to be little reason for potential users to select the C.O.P.S. over established inventories . . ." (p. 1404).

Other instruments were gradually eliminated on the bases of (1) lack of close fit between their normative populations and the population to be served in the Vocational Diagnostic Project; (2) emphasis on vocational areas not included in the Vocational Diagnostic Project; (3) difficulties with administrating or scoring; and (4) cost.

RECOMMENDED INSTRUMENTS --

Professor Dudley, an acknowledged authority in career education, informally recommended only two instruments as being highly useful to our project. One of these is the General Aptitude Test Battery (G.A.T.B.). It was discovered that it is impossible for the project to utilize this test battery because in the South Bend area it can only be administered at and by the Employment Security Division by their own specially trained personnel. In terms of the immense numbers of people for whom norms exist for this instrument, this may well have been the best choice, if it had been feasible. On the other hand, it is lengthy, and may have overwhelmed our clients.

The other instrument recommended by Dr. Dudley was the Flanagan Aptitude Classification Tests (FACT). This battery of tests was developed from work with thousands of persons in the Armed Forces during World War II, and has benefited from a good deal of continuous research since then. According to the Seventh Mental Measurements Yearbook, there are a number of very positive qualities in this instrument. "Foremost among these is the continued research aimed at validating the claim of the importance of matching job elements with aptitude clusters." (Matching job elements with aptitude clusters is the basic intent of the FACT, and is the basis for construction of the various test items.) "Secondly, the quality of the testing materials and aids to counselors are superior." (p. 1055.)

The negative aspects of this test make it unacceptable to our particular project, however. The full battery requires six hundred thirty (630) minutes and the sub-tests are not intended to be used separately. The advantage of administering such a formidable battery is that when this is done the combinations of sub-tests can be used for predicting success in general occupational fields. In many cases the reliability ranges are adequate for individual prediction, but the extreme length and complexity of administration forces us not to choose the FACT.

There is, however, a battery of eighteen (18) shortened sub-test adaptations of the FACT sub-tests which is known as the Flanagan Industrial Tests (FIT). These sub-tests require only either five or fifteen minutes each. Scores in various combinations of sub-tests can be used to assess aptitudes for various occupational clusters. For example, the following combinations of sub-tests can be used in the Vocational Diagnostic Project to assess potential aptitude for each of the following work/study samples:

Automotive Service Technology

1. Flanagan Industrial Tests - Inspection Test
2. Flanagan Industrial Tests - Precision Test
3. Flanagan Industrial Tests - Assembly Test
4. Flanagan Industrial Tests - Patterns Test
5. Flanagan Industrial Tests - Components Test
6. Flanagan Industrial Tests - Mechanics Test

Drafting

1. Flanagan Industrial Tests - Precision Test
2. Flanagan Industrial Tests - Scales Test
3. Flanagan Industrial Tests - Patterns Test
4. Flanagan Industrial Tests - Components Test
5. Flanagan Industrial Tests - Mechanics Test

Licensed Practical Nursing

1. Flanagan Industrial Tests - Memory Test
2. Flanagan Industrial Tests - Scales Test
3. Flanagan Industrial Tests - Judgment and Comprehension
4. Comprehensive Guidance Program Tests

Machine Tool Technology

1. Flanagan Industrial Tests - Inspection Test
2. Flanagan Industrial Tests - Precision Test
3. Flanagan Industrial Tests - Assembly Test
4. Flanagan Industrial Tests - Coordination Test
5. Flanagan Industrial Tests - Mechanics Test

Secretary

1. Flanagan Industrial Tests - Memory Test
2. Flanagan Industrial Tests - Judgment & Comprehension Test
3. Flanagan Industrial Tests - Expression Test
4. Flanagan Industrial Tests - Vocabulary Test
5. Flanagan Industrial Tests - Scales Test
6. Flanagan Industrial Tests - Tables Test

Welding

1. Flanagan Industrial Tests - Coordination Test
2. Flanagan Industrial Tests - Inspection Test
3. Flanagan Industrial Tests - Precision Test

The precise composition of the battery to be used for each occupational cluster has been worked out with the faculty and chairpersons of each division involved, largely on the basis of which sub-tests measure ability to perform critical work elements involved in each work/study sample. Scores on these sub-tests can be related to FACT norms. The instrument is economical to purchase and is hand scored immediately and on the spot. The word "Industrial" appears in the title because this adaptation was produced primarily to assist personnel departments in industry in selecting employees -- particularly for entry-level positions. This group would seem to correspond very closely if not perfectly with students who have completed a program of study at IVTC. Taking all factors into consideration, it was therefore concluded that the Vocational Diagnostic Project adopt as one of its instruments the Flanagan Industrial Tests (FIT).

The second instrument that was recommended is the Holland Self-Directed Search which describes itself as a guide to educational and vocational planning. There is no time limit on this instrument and people who take it usually consider it to be very interesting, if not fun. Scores are immediately available, and are related to Dictionary of Occupational Titles (D.O.T.) six-digit occupational classification numbers.

The Holland Self-Directed Search does not require a particularly deep level of prior occupational knowledge. It employs a variety of concepts in attempting to assess occupational interest. These include occupational daydreams, activities, competencies and self-estimates, in addition to occupations. Persons who perform the Self-Directed Search learn a good deal about occupations and the world of work just from the act of completing the instrument. The results from the Holland, taken together with the scores of the various sub-tests of the FIT, can quickly and economically provide a local counselor and client an adequate data base consisting of interests and aptitudes from which to enable the client to make progress towards a suitable educational and vocational choice.

(E) Work/Study Samples: Outline of Activities. With the completion of the design of the work/study samples, and with the selection of appropriate paper-and-pencil tests to meet the needs of each one, it is possible to formulate an outline of the activities for clients to perform in each of the six occupational areas which are included in the Vocational Diagnostic Project. These outlines follow.

OCCUPATIONAL/STUDY AREA: Automotive Service Technology

INDIANA VOCATIONAL TECHNICAL COLLEGE - SOUTH BEND

VOCATIONAL DIAGNOSTIC PROJECT

JUNE 21 through JULY 9, 1976

WORK/STUDY SAMPLE

Session I	June 23 - 29
Session II	June 30 - July 7

REQUIRED READING LEVEL: GRADE 9

REQUIRED MATH LEVEL: GRADE 9

DURATION: 4 days (Session I: T,W,Th,F July 6 - July 9)

TIMES: 8:00 a.m. to 1:00 p.m.

NOTE: Location: Report to classroom #262

FORMS OF INSTRUCTION:

Individualized; observation in the classroom of regular course(s) in progress; observation in the laboratory (demonstrations and jobs under way); performance of a simple project on some component of an automobile, using tools provided by instructor.

OCCUPATIONAL/STUDY AREA: Automotive Service Technology

INDIANA VOCATIONAL TECHNICAL COLLEGE - SOUTH BEND

VOCATIONAL DIAGNOSTIC PROJECT

JUNE 21 through JULY 9, 1976

WORK/STUDY SAMPLE

IMPORTANT LEARNING OBJECTIVES:

Cognitive:
1. Know sufficient common terms to perform simple assembly and disassembly tasks
2. Know methods and procedures
3. Demonstrate correct usage of a method or procedure, to the satisfaction of the instructor

Affective:
1. Listen attentively
2. Show sensitivity to others' needs
3. Attends closely to instructional activities
4. Complete independent work
5. Show interest in subject
6. Demonstrate self-reliance in working independently
7. Use objective approach in problem solving
8. Demonstrate industry, punctuality, and self-discipline
9. Show care for own appearance
10. Show proper attitude toward automobiles, i.e., willingness to get hands dirty and willingness to learn something new
11. Demonstrate cooperativeness with instructors and fellow workers**

** Particularly important

Psychomotor:
1. Learn about and demonstrate the proper use of some basic automobile hand tools
2. Observe classroom instruction
3. Observe instruction in the laboratory
4. Observe demonstration and perform project based upon those demonstrations. This will include assembling and disassembling automotive components such as brakes

IMPORTANT WORK ELEMENTS INVOLVED:

1. Ability to spot flaws or imperfections in a series of articles quickly and accurately.
2. Ability to do precision work with small objects; speed and accuracy in making appropriate finger movements.
3. Ability to visualize the appearance of an object assembled from a number of separate parts. It is related to visualizing the results of structural and mechanical changes.
4. Ability to perceive and reproduce simple pattern outlines precisely and accurately.
5. Ability to locate and identify important parts of a whole. This involves an ability to change visual patterns, especially flexibility in shifting from a comprehensive pattern to a detailed part.
6. Ability to understand mechanical principles and to analyze mechanical movements.

OCCUPATIONAL/STUDY AREA: Automotive Service Technology

INDIANA VOCATIONAL TECHNICAL COLLEGE - SOUTH BEND
VOCATIONAL DIAGNOSTIC PROJECT
JUNE 21 through JULY 9, 1976
WORK/STUDY SAMPLE

PRE-HANDS-ON TESTING PACKAGE:

1. Holland Self-Directed Search
2. Flanagan Industrial Tests - Inspection Test
3. Flanagan Industrial Tests - Precision Test
4. Flanagan Industrial Tests - Assembly Test
5. Flanagan Industrial Tests - Patterns Test
6. Flanagan Industrial Tests - Components Test
7. Flanagan Industrial Tests - Mechanics Test

OCCUPATIONAL/STUDY AREA: Automotive Service Technology

INDIANA VOCATIONAL TECHNICAL COLLEGE - SOUTH BEND

VOCATIONAL DIAGNOSTIC PROJECT

JUNE 21 through JULY 9, 1976

WORK/STUDY SAMPLE

SCHEDULE OF ACTIVITIES:

Day I	Observe class instruction in automobile braking systems and use of tools. Each day will include not only a lecture/demonstration but also hands-on practice in the assembly and disassembly of various brake components including both disc and drum types using common braking tools (unique for use on brakes) provided by IVTC. Each day will be interrupted by approximately one hour of observation of the other instructional areas then in progress, namely: air conditioning, vehicle inspection techniques and advanced tune-up.
Day II	"
Day III	"
Day IV	"

OCCUPATIONAL/STUDY AREA: Automotive Service Technology

INDIANA VOCATIONAL TECHNICAL COLLEGE - SOUTH BEND

VOCATIONAL DIAGNOSTIC PROJECT

JUNE 21 through JULY 9, 1976

WORK/STUDY SAMPLE

EVALUATION OF EACH CLIENT'S PERFORMANCE:

1. Each faculty member and the Principal Investigator will provide a formal evaluation of each of the important learning objectives on each client based upon observation and/or client performance. Forms will be provided each instructor for this purpose. The information contained in the evaluation will be utilized in counseling sessions with each client, and to provide one basis for evaluating the project itself.

2. Each client will discuss the experience with the Principal Investigator who will obtain both a formal and informal evaluation of the experience from the client.

AUTO SERVICE TECHNOLOGY Name of Client__________________ Name of Instructor________________

LEARNING OBJECTIVES	Poor	Below Average	Average	Above Average	Outstanding
1. Know common terms.					
2. Know methods and procedures.					
3. Demonstrate correct usage of a method of procedure.					
4. Listen attentively.					
5. Show sensitivity to others' needs.					
6. Attends closely to instructional activities.					
7. Completes independent work.					
8. Shows interest in subject.					
9. Demonstrates self-reliance in working independently.					
10. Uses objective approach in problem solving.					
11. Demonstrates industry, punctuality and self-discipline.					

PLEASE WRITE COMMENTS ON REVERSE SIDE

AUTO SERVICE TECHNOLOGY (Continued) Name of Client______________ Name of Instructor______________

LEARNING OBJECTIVES	Poor	Below Average	Average	Above Average	Outstanding
12. Shows care for own appearance.					
13. Shows proper attitude toward automobiles, i.e., willingness to get hands dirty and willingness to learn something new.					
14. Demonstrate cooperativeness with instructors and fellow workers.					
15. Learn about and demonstrate the proper use of some basic automobile hand tools.					
16. Observe classroom instruction.					
17. Observe instruction in the laboratory.					
18. Observe demonstration and perform project based upon those demonstrations. This will include assembling and disassembling automotive components such as brakes.					

PLEASE WRITE COMMENTS ON REVERSE SIDE

OCCUPATIONAL/STUDY AREA: Drafting

INDIANA VOCATIONAL TECHNICAL COLLEGE - SOUTH BEND

VOCATIONAL DIAGNOSTIC PROJECT

JUNE 21 through JULY 9, 1976

WORK/STUDY SAMPLE

Session I	June 23 - 29
Session II	June 30 - July 7

REQUIRED READING LEVEL: GRADE 11

REQUIRED MATH LEVEL: GRADE 11

DURATION: 3 days (Session I Th, M, T June 24, 28, 29
Session II Th, T, Th July 1, 6, 8)

TIMES: 8:00 a.m. - 12:00 Noon M, T, Th

(Vocational diagnostic clients will work at the same times and locations and with the same instructors as IVTC-SB students enrolled in Architectural Design II (small commercial buildings)

FORMS OF INSTRUCTION:

Individualized; Demonstrations; Independent Performance of Assigned Projects.

OCCUPATIONAL/STUDY AREA: Drafting

INDIANA VOCATIONAL TECHNICAL COLLEGE - SOUTH BEND

VOCATIONAL DIAGNOSTIC PROJECT

JUNE 21 through JULY 9, 1976

WORK/STUDY SAMPLE

IMPORTANT LEARNING OBJECTIVES:

Cognitive:

1. Know common terms
2. Know methods and procedures
3. Estimate future consequences implied in data
4. Demonstrate usage of a method or procedure
5. Gain familiarity with architectural information resources
6. Learn about what the drafting room environment is like

Affective:

1. Listen attentively
2. Show sensitivity to others' needs
3. Attends closely to instructional activities
4. Complete independent work
5. Show interest in subject
6. Demonstrate self-reliance in working independently**
7. Use objective approach in problem solving
8. Demonstrate industry, punctuality, and self-discipline
9. Show care for own appearance.

** Particularly important

Psychomotor:

1. Accurately draw a residential floor plan
2. Print legibly and quickly
3. Use architectural information resources

IMPORTANT WORK ELEMENTS INVOLVED:

1. Perseverance.
2. Ability to do precision work with small objects; speed and accuracy in making appropriate finger movements.
3. Ability to read scales, graphs, and charts quickly and accurately.
4. Ability to perceive and reproduce simple pattern outlines precisely and accurately.
5. Ability to locate and identify important parts of a whole. This involves an ability to change visual patterns, expecially flexibility in shifting from a comprehensive pattern to a detailed part.
6. Ability to understand mechanical principles and to analyze mechanical movements.

OCCUPATIONAL/STUDY AREA: Drafting

INDIANA VOCATIONAL TECHNICAL COLLEGE - SOUTH BEND

VOCATIONAL DIAGNOSTIC PROJECT

JUNE 21 through JULY 9, 1976

WORK/STUDY SAMPLE

PRE-HANDS-ON TESTING PACKAGE:

1. Holland Self-Directed Search
2. Flanagan Industrial Tests - Precision Test
3. Flanagan Industrial Tests - Scales Test
4. Flanagan Industrial Tests - Patterns Test
5. Flanagan Industrial Tests - Components Test
6. Flanagan Industrial Tests - Mechanics Test

OCCUPATIONAL/STUDY AREA: Drafting

INDIANA VOCATIONAL TECHNICAL COLLEGE - SOUTH BEND

VOCATIONAL DIAGNOSTIC PROJECT

JUNE 21 through JULY 9, 1976

WORK/STUDY SAMPLE

SCHEDULE OF ACTIVITIES:

The schedule of activities falls into five phases to be completed within the three-day period at a pace determined by the instructor based upon an assessment of the client's performance.

LOCATION: Drafting Laboratory

1. Lecture: General Orientation to Drafting.
2. Instruction and practice in printing and use of simple drafting tools.
3. Perform a simple problem in drawing objects accurately.
4. Visualize a room, and represent features of the room and placement of furniture and equipment in it, after listing all features and furniture which subject thinks should appear. This drawing would include dimensions and scales.
5. Receive instruction and comprehend bubble diagram concept of building design. Draw an entire floor plan including features and furniture/equipment. This task will require analyzing elements of the problem, determining how the various elements of the problem interrelate with each other, and how to represent these interrelationships on paper. It will also require consulting standard resource materials which will be available in the laboratory.

The vocational diagnostic clients will operate under no strict rigid schedule in attempting to complete the above tasks. Instructors will be available for consultation whenever needed and will occasionally check the client's progress whether or not requested by the client.

OCCUPATIONAL/STUDY AREA: Drafting

INDIANA VOCATIONAL TECHNICAL COLLEGE - SOUTH BEND

VOCATIONAL DIAGNOSTIC PROJECT

JUNE 21 through JULY 9, 1976

WORK/STUDY SAMPLE

EVALUATION OF EACH CLIENT'S PERFORMANCE:

1. Each faculty member and the Principal Investigator will provide a formal evaluation of each of the important learning objectives on each client based upon observation and/or client performance. Forms will be provided each instructor for this purpose. The information contained in the evaluation will be utilized in counseling sessions with each client, and to provide one basis for evaluating the project itself.

2. Each client will discuss the experience with the Principal Investigator who will obtain both a formal and informal evaluation of the experience from the client.

DRAFTING Name of Client________________ Name of Instructor________________

LEARNING OBJECTIVES	Poor	Below Average	Average	Above Average	Outstanding
1. Know common terms.					
2. Know methods and procedures.					
3. Estimate future consequences implied in data.					
4. Demonstrate usage of a method or procedure.					
5. Gain familiarity with architectural information sources.					
6. Learn about what the drafting room environment is like.					
7. Listen attentively.					
8. Show sensitivity to others' needs.					
9. Attends closely to instructional activities.					
10. Completes independent work.					
11. Shows interest in subject.					

PLEASE WRITE COMMENTS ON REVERSE SIDE

DRAFTING (Continued) Name of Client ____________ Name of Instructor ____________

LEARNING OBJECTIVES	Poor	Below Average	Average	Above Average	Outstanding
12. Demonstrates self-reliance in working independently.					
13. Uses objective approach in problem solving.					
14. Demonstrates industry, punctuality, and self-discipline.					
15. Shows care for own appearance.					
16. Accurately draws a residential floor plan.					
17. Prints legibly and quickly.					
18. Uses architectural information resources.					

PLEASE WRITE COMMENTS ON REVERSE SIDE

OCCUPATIONAL/STUDY AREA: Licensed Practical Nursing

INDIANA VOCATIONAL TECHNICAL COLLEGE - SOUTH BEND

VOCATIONAL DIAGNOSTIC PROJECT

JUNE 21 through JULY 7, 1977

WORK/STUDY SAMPLE

Session I	June 23 - 29
Session II	June 30 - July 7

REQUIRED READING LEVEL: GRADE 12

REQUIRED MATH LEVEL: GRADE 8

DURATION: 3 Days (Session I W,Th,F
June 23 - June 25

Session II M,T,W
June 28 - June 30)

TIMES: 9:00 a.m. to 11:30 a.m. (Lecture/Classroom Activities)

1:00 p.m. to 3:00 p.m. (Performance Activities)

FORMS OF INSTRUCTION:

Lecture/Demonstration; Return (Performance of Specific Procedures Based Upon Demonstration and Reading); and Audio-Visual Materials

OCCUPATIONAL/STUDY AREA: Licensed Practical Nursing

INDIANA VOCATIONAL TECHNICAL COLLEGE - SOUTH BEND

VOCATIONAL DIAGNOSTIC PROJECT

JUNE 21 through JULY 9, 1976

WORK/STUDY SAMPLE

IMPORTANT LEARNING OBJECTIVES:

Cognitive:

1. Know common terms
2. Know methods and procedures
3. Demonstrate correct usage of a method or procedure

Affective:

1. Listen attentively
2. Show sensitivity to others' needs
3. Attends closely to instructional activities
4. Complete independent work
5. Show interest in subject
6. Demonstrate self-reliance in working independently
7. Use objective approach in problem solving
8. Demonstrate industry, punctuality, and self-discipline
9. Show care for own appearance

Psychomotor:

1. Ability to assess a patient's or group of patients' condition and general situation, and then establish treatment priorities, and then take appropriate corrective action in appropriate order in a reasonable time
2. Punctuality and dependability
3. Ability to translate verbal material and knowledge into successful performance
4. Be aware of and deal with psycho-social needs of patients
5. Learn about classroom/institutional demand of LPN course of study as well as patient care demands

IMPORTANT WORK ELEMENTS INVOLVED:

1. Ability to learn and to recall a term associated with an unfamiliar one.
2. Ability to read scales, graphs, and charts quickly and accurately.
3. Ability to read with understanding, to reason logically, and to use good judgment in interpreting materials.
4. Ability to apply verbal material by taking action in a practical real world situation.

OCCUPATIONAL/STUDY AREA: Licensed Practical Nursing

INDIANA VOCATIONAL TECHNICAL COLLEGE - SOUTH BEND

VOCATIONAL DIAGNOSTIC PROJECT

JUNE 21 through JULY 9, 1976

WORK/STUDY SAMPLE

PRE-HANDS-ON TESTING PACKAGE:

1. Holland Self-Directed Search
2. Flanagan Industrial Tests - Memory Test
3. Flanagan Industrial Tests - Scales Test
4. Glanagan Industrial Tests - Judgment and Comprehension Test
5. Comprehensive Guidance Program Tests

OCCUPATIONAL/STUDY AREA: Licensed Practical Nursing

INDIANA VOCATIONAL TECHNICAL COLLEGE - SOUTH BEND

VOCATIONAL DIAGNOSTIC PROJECT

JUNE 21 through JULY 9, 1976

WORK/STUDY SAMPLE

SCHEDULE OF ACTIVITIES:

DAY I 9:00 a.m. to 11:30 a.m.

Mini-lecture on diabetes (approximately 1½ hours) with paper and pencil evaluation following.

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1:00 p.m. to 3:00 p.m.

Temperature and blood pressure demonstration and return demonstration. Observe Audio-Visual materials and demonstrations on temperature and blood pressure. Then using each other as subjects, demonstrate proper use of thermometers and blood pressure equipment.

DAY II 9:00 a.m. to 11:30 a.m.

Lecture on communication and safety.

- - - - - - - - - - - -

1:00 p.m. to 3:00 p.m.

Observe Red Cross films which include demonstrations concerning bleeding and breathing. Perform return demonstration illustrating understanding of pressure points and CPR.

DAY III 9:00 a.m. to 11:30 a.m.

(1) Paper and pencil tests on materials covered on previous two days.
(2) Mock emergency: Assess condition of 1 to 3 emergency patients; assess general situation; establish treatment priorities for each patient; and then take appropriate corrective action in the appropriate order within a reasonable time.

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1:00 p.m. to 3:00 p.m.

Field Trip to Nursing Home - This will involve taking the temperature and blood pressure on some real patients in a real nursing home. The exercises will be performed separately so that each individual cannot benefit by observing the performance of other individuals who may go before him/her. This exercise will utilize communication, safety and other instruction received during the first two and a half days.

From observing the client under these various conditions, IVTC instructors can assess the client and the client can assess self and the job of learning to be a Licensed Practical Nurse and in performing activities in that occupation in all its different aspects, particularly both the intellectual and performance areas.

OCCUPATIONAL/STUDY AREA: Licensed Practical Nursing

INDIANA VOCATIONAL TECHNICAL COLLEGE - SOUTH BEND

VOCATIONAL DIAGNOSTIC PROJECT

JUNE 21 through JULY 9, 1976

WORK/STUDY SAMPLE

EVALUATION OF EACH CLIENT'S PERFORMANCE:

1. Each faculty member and the principal investigator will provide a formal evaluation of each of the important learning objectives on each client based upon observation and/or client performance. Forms will be provided each instructor for this purpose. The information contained in the evaluation will be utilized in counseling sessions with each client, and to provide one basis for evaluating the project itself.

2. Each client will discuss the experience with the Principal Investigator who will obtain both a formal and informal evaluation of the experience from the client.

LICENSED PRACTICAL NURSING Name of Client______________ Name of Instructor______________

LEARNING OBJECTIVES	Poor	Below Average	Average	Above Average	Outstanding
1. Know common terms.					
2. Know methods and procedures.					
3. Demonstrate correct usage of a method or procedure.					
4. Listens attentively.					
5. Shows sensitivity to others' needs.					
6. Attends closely to instructional activities.					
7. Completes independent work.					
8. Shows interest in subject.					
9. Demonstrates self-reliance in working independently.					
10. Uses objective approach in problem solving.					
11. Demonstrates industry, punctuality and self-discipline.					

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PLEASE WRITE COMMENTS ON REVERSE SIDE

LICENSED PRACTICAL NURSING (Continued) Name of Client__________ Name of Instructor__________

LEARNING OBJECTIVES	Poor	Below Average	Average	Above Average	Outstanding
12. Shows care for own appearance.					
13. Ability to assess a patient's or group of patients' condition and general situation, and then establish treatment priorities, and then take appropriate corrective action in appropriate order in a reasonable time.					
14. Punctuality and dependability.					
15. Ability to translate verbal material and knowledge into successful performance.					
16. Be aware of and deal with psycho-social needs of patients.					
17. Learn about classroom/institutional demand of LPN course of study as well as patient care demands.					

PLEASE WRITE COMMENTS ON REVERSE SIDE

OCCUPATIONAL/STUDY AREA: Machine Tool Technology

INDIANA VOCATIONAL TECHNICAL COLLEGE - SOUTH BEND

VOCATIONAL DIAGNOSTIC PROJECT

JUNE 21 through JULY 9, 1976

WORK/STUDY SAMPLE

Session I	June 23 - 29
Session II	June 30 - July 7

REQUIRED READING LEVEL: GRADE 10

REQUIRED MATH LEVEL: GRADE 8

DURATION: 5 days (Session I W,Th,F,M&T June 23 - June 29
Session II W,Th,F,T,&W June 30 - July 7)

TIMES: 8:30 - 12:30 M,W,F
8:30 - 2:15 T,Th

(Vocational Diagnostic clients will be in same room, on same schedule and will have same instructors as will IVTC students enrolled in 7710 basic Machine Tools, 7720 Machine Tools I)

FORMS OF INSTRUCTION:

Individualized; viceo-tape lecture/demonstration; live lecture/demonstration; performance of projects on machines.

OCCUPATIONAL/STUDY AREA: Machine Tool Technology

INDIANA VOCATIONAL TECHNICAL COLLEGE - SOUTH BEND

VOCATIONAL DIAGNOSTIC PROJECT

JUNE 21 through JULY 9, 1976

WORK/STUDY SAMPLE

IMPORTANT LEARNING OBJECTIVES:

Cognitive:
1. Know common terms
2. Know specific facts
3. Know methods and procedures
4. Demonstrate correct usage of a method or procedure

Affective:
1. Listen attentively
2. Attend closely to laboratory activities
3. Complete laboratory work
4. Show interest in subject
5. Demonstrate industry, punctuality and self-discipline

Psychomotor:
1. Make 3 or 4 satisfactory welds on a saw blade
2. Operate a vertical band saw and reciprocating power hack saw
3. Saw material with welded saw blade
4. Operating appropriate grinding machine, grind a tool bit to be used on a lathe
5. Operating a lathe, turn a piece of steel, using own tool bit

IMPORTANT WORK ELEMENTS INVOLVED:

1. Ability to spot defects in small objects quickly and accurately.

2. Ability to do precision work with small objects; speed and accuracy in making appropriate finger movements with the hand.

3. Ability to visualize the appearance of an object assembled from a number of separate parts. It is related to visualizing the results of structural and mechanical changes.

4. Ability to coordinate hand and arm movement in a smooth and accurate manner.

5. Ability to understand mechanical principles and to analyze mechanical movements.

OCCUPATIONAL/STUDY AREA: Machine Tool Technology

INDIANA VOCATIONAL TECHNICAL COLLEGE - SOUTH BEND

VOCATIONAL DIAGNOSTIC PROJECT

JUNE 21 through JULY 9, 1976

WORK/STUDY SAMPLE

PRE-HANDS-ON TESTING PACKAGE:

1. Holland Self-Directed Search
2. Flanagan Industrial Tests - Inspection Test
3. Flanagan Industrial Tests - Precision Test
4. Flanagan Industrial Tests - Assembly Test
5. Flanagan Industrial Tests - Coordination Test
6. Flanagan Industrial Tests - Mechanics Test

OCCUPATIONAL/STUDY AREA: Machine Tool Technology

INDIANA VOCATIONAL TECHNICAL COLLEGE - SOUTH BEND

VOCATIONAL DIAGNOSTIC PROJECT

JUNE 21 through JULY 9, 1976

WORK/STUDY SAMPLE

SCHEDULE OF ACTIVITIES:

Within the five-day sequence, at the client's own pace, as many of these activities as can be completed:

1. Observe a video-tape lecture/demonstration on how to weld a saw blade. PLACE: Learning Resource Center.
2. Observe a live demonstration on how to weld a saw blade. PLACE: (for this and all following activities): Machine Laboratory
3. Make 3 or 5 satisfactory welds on a saw blade.
4. Observe demonstration, and then operate a vertical band saw and a reciprocating power hack saw.
5. Saw material using own welded saw blade.
6. Observe demonstration, and then operate grinding machine to grind a tool bit to be used on a lathe.
7. Observe demonstration, and then, using own tool bit, operate a lathe and turn a piece of steel.

OCCUPATIONAL/STUDY AREA: Machine Tool Technology

INDIANA VOCATIONAL TECHNICAL COLLEGE - SOUTH BEND

VOCATIONAL DIAGNOSTIC PROJECT

JUNE 21 through JULY 9, 1976

WORK/STUDY SAMPLE

EVALUATION OF EACH CLIENT'S PERFORMANCE:

1. Each faculty member and the Principal Investigator will provide a formal evaluation of each of the important learning objectives on each client based upon observation and/or client performance. Forms will be provided each instructor for this purpose. The information contained in the evaluation will be utilized in counseling sessions with each client, and to provide one basis for evaluating the project itself.

2. Each client will discuss the experience with the Principal Investigator who will obtain both a formal and informal evaluation of the experience from the client.

MACHINE TOOL TECHNOLOGY Name of Client__________ Name of Instructor__________

LEARNING OBJECTIVES	Poor	Below Average	Average	Above Average	Outstanding
1. Know common terms.					
2. Know specific facts.					
3. Know methods and procedures.					
4. Demonstrate correct usage of a method or procedure.					
5. Listen attentively.					
6. Attend closely to laboratory activities.					
7. Complete laboratory work.					
8. Show interest in subject.					
9. Demonstrate industry, punctuality and self-discipline.					
10. Make 3 or 4 satisfactory welds on a saw blade.					
11. Operate a vertical band saw and reciprocating power hack saw.					

PLEASE WRITE COMMENTS ON REVERSE SIDE

MACHINE TOOL TECHNOLOGY (Continued) Name of Client__________ Name of Instructor__________

LEARNING OBJECTIVES	Poor	Below Average	Average	Above Average	Outstanding
12. Saw material with welded saw blade.					
13. Operating appropriate grinding machine, grind a tool bit to be used on a lathe.					
14. Operating a lathe, turn a piece of steel, using own tool bit.					

PLEASE WRITE COMMENTS ON REVERSE SIDE

OCCUPATIONAL/STUDY AREA: Secretary

INDIANA VOCATIONAL TECHNICAL COLLEGE - SOUTH BEND

VOCATIONAL DIAGNOSTIC PROJECT

JUNE 21 through JULY 9, 1976

WORK/STUDY SAMPLE

Session I	June 23 - 29
Session II	June 30 - July 7

REQUIRED READING LEVEL: GRADE 10

REQUIRED MATH LEVEL: GRADE 11

DURATION: 5 days (Session I W,Th,F,M,&T June 23 - 29
Session II W,Th,F,T,&W June 30 - July 7)

TIMES: 8:00 a.m. to 3:00 p.m. on the first day of each session
8:30 a.m. to 3:00 p.m. on the second through fifth days of each session.

(Client will be working in the same vicinity, and with the same instructor, as will IVTC and CETA students enrolled in Secretarial Science.)

FORMS OF INSTRUCTION:

Individualized self-paced learning modules; office simulation; participant-observation (work with a secretary employed at IVTC-SB); conferences with a group of Secretarial Science Faculty) and the Other Vocational Diagnostic clients.

OCCUPATIONAL/STUDY AREA: Secretary

INDIANA VOCATIONAL TECHNICAL COLLEGE - SOUTH BEND

VOCATIONAL DIAGNOSTIC PROJECT

JUNE 21 through JULY 9, 1976

WORK/STUDY SAMPLE

IMPORTANT LEARNING OBJECTIVES:

Cognitive:

1. Know common terms
2. Know methods and procedures
3. Demonstrate correct usage of a method of procedure

Affective:

1. Listen attentively
2. Show sensitivity to others' needs
3. Attends closely to instructional activities
4. Complete independent work
5. Show interest in subject
6. Demonstrate self-reliance in working independently.
7. Use objective approach in problem solving
8. Demonstrate industry, punctuality and self-discipline
9. Show care for own appearance

Psychomotor:

1. Perform some basic typing operations
2. Perform some basic shorthand operations, taking some dictation
3. Operate common office machines
4. Alphabetize material
5. Compute a weekly payroll
6. Demonstrate some knowledge of basic clerical procedures
7. Cut a stencil and run it off on the appropriate duplicating machine

IMPORTANT WORK ELEMENTS INVOLVED:

1. Ability to alphabetize.
2. Ability to spell well.
3. Ability to learn and to recall a term associated with an unfamiliar term.
4. Ability to read with understanding, to reason logically, and to use good judgment in interpreting materials.
5. Feeling for and knowledge of correct English; ability to convey ideas in writing and talking.
6. Ability to choose the right word to convey an idea: knowledge of words used in business and government matters.
7. Ability to read scales, graphs, and charts quickly and accurately.
8. Ability to read tables quickly and accurately.

OCCUPATIONAL/STUDY AREA: Secretary

INDIANA VOCATIONAL TECHNICAL COLLEGE - SOUTH BEND

VOCATIONAL DIAGNOSTIC PROJECT

JUNE 21 through JULY 9, 1976

WORK/STUDY SAMPLE

PRE-HANDS-ON TESTING PACKAGE:

1. Holland Self-Directed Search
2. Flanagan Industrial Tests - Memory Test
3. Flanagan Industrial Tests - Judgment & Comprehension Test
4. Flanagan Industrial Tests - Expression Test
5. Flanagan Industrial Tests - Vocabulary Test
6. Flanagan Industrial Tests - Scales Test
7. Flanagan Industrial Tests - Tables Test

OCCUPATIONAL/STUDY AREA: Secretary

INDIANA VOCATIONAL TECHNICAL COLLEGE - SOUTH BEND

VOCATIONAL DIAGNOSTIC PROJECT

JUNE 21 through JULY 9, 1976

WORK/STUDY SAMPLE

SCHEDULE OF ACTIVITIES:

DAYS I, II, and III

8:00 (First day only)	Orientation by Faculty Members (Place)
	- - - - - - - - - - - -
8:30 - 9:45	Clerical Module Personal Development Class (First Wednesday only)
10:00 - 11:30	Shorthand I Module Personal Development Class (First Wednesday only)
11:30 - 12:05	Lunch Break
12:05 - 1:15	Office Machines or Typing I Module
1:30 - 2:45	Typing I Module

DAY IV

8:30 - 11:30	Office-Simulation Experience (See Attached Material)
11:30 - 12:05	Lunch Break
12:05 - 2:45	Office-Simulation Experience - Continued

DAY V

8:30 - 11:30	Participant-Observer Experience (Work with a secretary employed at IVTC-SB)
11:30 - 12:05	Lunch Break
12:05 - 2:45	Summing Up Conference with a group of Secretarial Science faculty and the other Vocational Diagnostic Clients.

OCCUPATIONAL/STUDY AREA: Secretary

INDIANA VOCATIONAL TECHNICAL COLLEGE - SOUTH BEND

VOCATIONAL DIAGNOSTIC PROJECT

JUNE 21 through JULY 9, 1976

WORK/STUDY SAMPLE

EVALUATION OF EACH CLIENT'S PERFORMANCE:

1. Each faculty member and the Principal Investigator will provide a formal evaluation of each of the important learning objectives on each client based upon observation and/or client performance. Forms will be provided each instructor for this purpose. The information contained in the evaluation will be utilized in counseling sessions with each client, and to provide one basis for evaluating the project itself.

2. Each client will discuss the experience with the Principal Investigator who will obtain both a formal and informal evaluation of the experience from the client.

SECRETARY Name of Client________________ Name of Instructor________________

LEARNING OBJECTIVES	Poor	Below Average	Average	Above Average	Outstanding
1. Know common terms.					
2. Know methods and procedures.					
3. Demonstrate correct usage of a method or procedure.					
4. Listen attentively.					
5. Show sensitivity to others' needs.					
6. Attends closely to instructional activities.					
7. Complete independent work.					
8. Show interest in subject.					
9. Demonstrate self-reliance in working independently.					
10. Use objective approach in problem solving.					

PLEASE WRITE COMMENTS ON REVERSE SIDE

SECRETARY (Continued) Name of Client____________________ Name of Instructor____________________

LEARNING OBJECTIVES	Poor	Below Average	Average	Above Average	Outstanding
11. Demonstrate industry, punctuality and self-discipline.					
12. Show care for own appearance.					
13. Perform some basic typing operations.					
14. Perform some basic shorthand operations, taking some dictation.					
15. Operate common office machines.					
16. Compute a weekly payroll.					
17. Alphabetize material.					
18. Demonstrate some knowledge of basic clerical procedures.					
19. Cut a stencil and run it off on the appropriate duplicating machine.					

PLEASE WRITE COMMENTS ON REVERSE SIDE

OCCUPATIONAL/STUDY AREA: Welding

INDIANA VOCATIONAL TECHNICAL COLLEGE - SOUTH BEND

VOCATIONAL DIAGNOSTIC PROJECT

JUNE 21 through JULY 9, 1976

WORK/STUDY SAMPLE

Session I	June 23 - 29
Session II	June 30 - July 7

REQUIRED READING LEVEL: GRADE 7

REQUIRED MATH LEVEL: GRADE 7

DURATION: 5 days (Session I June 23 - June 29
W,Th,F,M&T
Session II June 30 - July 7
W,Th,F,T,W)

TIMES: 8:30 a.m. - 12:30 p.m.

LOCATION: Room #169

All clients should report to Mr. Waters

FORMS OF INSTRUCTION:

Individualized; Orientation Lectures; Observation/Demonstration; Performing Individual Projects

OCCUPATIONAL/STUDY AREA: Welding

INDIANA VOCATIONAL TECHNICAL COLLEGE - SOUTH BEND

VOCATIONAL DIAGNOSTIC PROJECT

JUNE 21 through JULY 9, 1976

WORK/STUDY SAMPLE

IMPORTANT LEARNING OBJECTIVES:

Cognitive:

1. Know common terms
2. Know methods and procedures
3. Demonstrate correct usage of a method or procedure

Affective:

1. Listen attentively
2. Show sensitivity to others' needs
3. Attends closely to instructional activities
4. Complete independent work
5. Show interest in subject
6. Demonstrate self-reliance in working independently
7. Use objective approach in problem solving
8. Demonstrate industry, punctuality, and self-discipline
9. Show care for own appearance

Psychomotor:

1. Demonstrate proper safety procedures at all times
2. Set up equipment and accessories for welding
3. Demonstrate ability to light torch properly and adjust flame appropriately for different kinds of jobs
4. Make a number of acceptable bubbles to instructor's satisfaction
5. Perform a number of basic types of welds

IMPORTANT WORK ELEMENTS INVOLVED:

1. Ability to coordinate arm and hand movements smoothly and accurately.
2. Ability to spot flaws or imperfections in a series of articles quickly and accurately.
3. Ability to do precise work with small objects; speec and accuracy in making appropriate finger movements.
4. Self-confidence with welding equipment.

OCCUPATIONAL/STUDY AREA: Welding

INDIANA VOCATIONAL TECHNICAL COLLEGE - SOUTH BEND

VOCATIONAL DIAGNOSTIC PROJECT

JUNE 21 through JULY 9, 1976

WORK/STUDY SAMPLE

PRE-HANDS-ON TESTING PACKAGE:

1. Holland Self-Directed Search
2. Flanagan Industrial Tests - Coordination Test
3. Flanagan Industrial Tests - Inspection Test
4. Flanagan Industrial Tests - Precision Test

OCCUPATIONAL/STUDY AREA: Welding

INDIANA VOCATIONAL TECHNICAL COLLEGE - SOUTH BEND

VOCATIONAL DIAGNOSTIC PROJECT

JUNE 21 through JULY 9, 1976

WORK/STUDY SAMPLE

SCHEDULE OF ACTIVITIES:

The following tasks will be performed in the area of oxy-Acetylene welding. This form of welding has been selected because it is the basic form and it is possible to observe the welding process actually taking place. One can learn most about his or her ability to weld by experiencing oxy-Acetylene welding.

The following tasks will be performed on the days indicated according to specific schedules to be determined by the instructor, based upon the client's progress.

DAY I
(1) Demonstrate proper safety procedures.
(2) Set up equipment and accessories for welding.
(3) Demonstrate setting regulator pressures to light torch properly; light a torch and adjust flames to four types used:
(a) Acetylene (c) Neutral
(b) Carborizing (d) Oxydizing

DAY II
Using proper flame, run 5 or 6 acceptable bubbles on 6-inch pieces of metal.

DAY III
(1) Make a weld bead with filler rod on a butt joint.
(2) Identify base metals and filler rods using colors and magnet bar.

DAYS IV and V
Demonstrate proper welding position by welding:
(1) butt joint in flat, horizontal, vertical down, vertical up and overhead positions;
(2) lap joint in flat, horizontal, vertical down, vertical up and overhead positions;
(3) fillet in flat, horizontal, vertical down, vertical up and overhead positions.

STANDARD: Instructor's example in each case and test welds using vice and hammer.

OCCUPATIONAL/STUDY AREA: Welding

INDIANA VOCATIONAL TECHNICAL COLLEGE - SOUTH BEND

VOCATIONAL DIAGNOSTIC PROJECT

JUNE 21 through JULY 9, 1976

WORK/STUDY SAMPLE

EVALUATION OF EACH CLIENT'S PERFORMANCE:

1. Each faculty member and the Principal Investigator will provide a formal evaluation of each of the important learning objectives on each client based upon observation and/or client performance. Forms will be provided each instructor for this purpose. The information contained in the evaluation will be utilized in counseling sessions with each client, and to provide one basis for evaluating the project itself.

2. Each client will discuss the experience with the Principal Investigator who will obtain both a formal and informal evaluation of the experience from the client.

WELDING Name of Client________________ Name of Instructor________________

LEARNING OBJECTIVES	Poor	Below Average	Average	Above Average	Outstanding
1. Know common terms.					
2. Know methods and procedures.					
3. Demonstrate correct usage of a method or procedure.					
4. Listen attentively.					
5. Show sensitivity to others' needs.					
6. Attends closely to instructional activities.					
7. Complete independent work.					
8. Show interest in subject.					
9. Demonstrate self-reliance in working independently.					
10. Use objective approach in problem solving.					

PLEASE WRITE COMMENTS ON REVERSE SIDE

WELDING (Continued) Name of Client________________ Name of Instructor________________

LEARNING OBJECTIVES	Poor	Below Average	Average	Above Average	Outstanding
11. Demonstrate industry, punctuality, and self-discipline.					
12. Show care for own appearance.					
13. Demonstrate proper safety procedures at all times.					
14. Set up equipment and accessories for welding.					
15. Demonstrate ability to light torch properly and adjust flame appropriately for different kinds of jobs.					
16. Make a number of acceptable bubbles.					
17. Perform a number of basic types of welds.					

PLEASE WRITE COMMENTS ON REVERSE SIDE

(F) Schedule of Activities for the Vocational Diagnostic Project.

1. Orientation. During the morning of the first day (Monday, June 21st) the program began at 9:00 a.m. with a welcome to IVTC-South Bend from Mr. Walter Moore, Regional Vice-President, who described the mission of IVTC-South Bend and from Mr. James Wells, Director of Student Services, who described the Vocational Diagnostic Project. Then, Dr. William Barnard, the principal investigator explained the schedule to be followed by the clients during the next three weeks. Questions from the floor were entertained and, hopefully, answered. At this point, the clients embarked on tours--guided by members of the Student Services Office--of the six occupational areas which are involved in the project: Automotive Service Technology, Drafting, Licensed Practical Nursing, Machine Tool Technology, Secretary, and Welding. An instructor in each area showed the clients the facilities, described the occupation he/she teaches, and gave basic occupational information, such as work conditions, employment opportunities, wage/salary rates, etc. After the tour was completed (by Noon or so), there was a break for lunch. Clients were asked to re-assemble in the original meeting location after lunch, and no later than 12:45.

   When the group re-assembled after lunch, a discussion took place concerning observations and questions which clients wished to make on the basis of their tour before lunch. Student Services staff were present to field questions.

2. Testing. After the discussion was over, the Holland Self-Directed Search was performed by all clients. When they finished, and after a short break, each client received a few sub-tests of the Flanagan Industrial Tests. Clients were excused at 3:00 or 3:30 p.m.

On Tuesday morning, testing resumed for all clients. They completed the Flanagan Industrial Tests battery during the morning. Before they left, each client checked with the principal investigator to be sure of his/her assignment for the next day (time, place, etc.).

(All clients will have been pre-tested for reading and mathematics skills at the Learning Resource Center at IVTC-South Bend during Monday and Tuesday, June 14 and 15--one week before the formal session begins.)

During Tuesday afternoon, and during Wednesday and Thursday, the principal investigator scored the tests and assembled and studied the data for each client prior to an initial counseling session which took place during the first work/study sample.

3. Performance of the Work/Study Samples. - First Session.

On Wednesday, clients reported for their first work/study sample, which was chosen solely by the client without benefit of data from paper-and-pencil tests. This choice is considered to be a powerful expression of interest, more powerful than choices made between items in any paper-and-pencil test. Therefore, clients' wishes should be and were respected

The first session of the work/study samples proceeded according to the schedule listed below.

4. Counseling I. During the few days which are devoted to the first work/study sample, and at times when the clients were free, each client met with the principal investigator for approximately one hour to get acquainted and to discuss test results and client's reactions to the first work/study samples. On the basis of this discussion, the client chose his/her second work/study sample. A recording was made of this session, and transcribed to form part of the data to be incorporated into the final report of this project.

5. Evaluation I. At the end of the first work/study sample, instructors immediately filled out the evaluation sheets and forwarded them to the principal investigator so that the data on them will be available for the final counseling session after completion of the second work/study sample.

6. Work/Study Sample II. Work/study samples were repeated according to the attached schedule, commencing for all except Drafting and Automotive Service, on Wednesday, June 30. Clients had chosen their particular work/study sample on the basis of a counseling session with the principal investigator. The second Drafting session commended on Thursday, July 1, and Automotive Service commenced (for two groups at once) on Tuesday, July 6. People whose first and second choice was Automotive Service took their work/study sample in that area together. The guiding factor in the selection

of the days on which work/study samples are held was the schedule followed by the regular classes which are in session at the time.

7. Evaluation II. Immediately following the completion of the second session of work/study samples, instructors filled out and forwarded to the principal investigator the evaluation form for each client. The principal investigator employed these in the final counseling session with each client, many of which sessions were held the very next day, after the completion of the second session.

8. Counseling II. During this session, clients discussed with the principal investigator the evaluations by the instructors for each of the two work/study samples. In addition, clients themselves evaluated each work/study sample. At this time, an attempt was made to ascertain what changes in the client's thinking about himself/herself and about what occupational choice has occurred during the course of the Vocational Diagnostic Project. Ways of keeping in communication with each client were worked out, for follow-up purposes. This session was taped, and then transcribed to form a part of the data on each client, and to form a basis for evaluation of the project itself.

9. Follow-Up. In subsequent months, after the tapes of the counseling sessions were transcribed, the principal investigator prepared a report on each client, and on what was learned by all participants about the Vocational Diagnostic Project

while it was in operation. Clients were contacted late in the Fall to ascertain what each one was now doing, and planning to do. These current activities and plans were related to the rest of the data on each client and on the Project, to form another basis for reporting and evaluation.

SCHEDULE OF WORK/STUDY SAMPLES

	Auto	Drafting	LPN	Machine	Secretary	Welding
Mon,June 21	----	----	----	----	----	----
Tues,22	----	----	----	----	----	----
Wed,23	----	----	I Day 1	I Day 1	I Day 1	I Day 1 -1
Th,24	----	I Day 1	I Day 2	I Day 2	I Day 2	I Day 2
Fri,25	----	----	I Day 3	I Day 3	I Day 3 -1	I Day 3 -1
Mon,28	----	I Day 2 -2	----	I Day 4	I Day 4	I Day 4 -1
Tues,29	----	I Day 3 (end	----	I Day 5 (end)	I Day 5 (end)	I Day 5 (end)
Wed,20	----	----	II Day 1	II Day 1	II Day 1	II Day 1
Th,July 1	----	II Day 1	II Day 2	II Day 2	II Day 2	II Day 2
Fri,2	----	----	II Day 3 (end)	II Day 3	II Day 3	II Day 3
Mon,5	HOLIDAY; IVTC-SOUTH BEND CLOSED					
Tues,6	Day 1	II Day 2	----	II Day 4	II Day 4	II Day 4
Wed,7	Day 2	----	----	II Day 5 (end)	II Day 5 (end)	II Day 5 (end)
Th,8	Day 3	II Day 3 (end)	----	----	----	----
Fri,9	Day 4 (end)	----	----	----	----	----

COUNSELING SCHEDULE

"I" appointments refer to clients who are currently enrolled in the given Work/Study Sample.

"II" appointments refer to clients who have completed the given Work/Study Sample.

	M21	T22	W23	Th24	F25
9:00	Orientation		Session I begins	Test Scoring	Drafting I
10:00	Tours	Testing	Test	and	Drafting I
11:00			Scoring and	Observation	Drafting I
12:00	LUNCH	LUNCH	Observation		(Drafting I)
1:00	Testing			Welding I	Machine I
2:00		Testing		Welding I	Machine I
3:00				Welding I	Secretary I
4:00				(Welding I)	(Secretary I)

	M28	T29	W30	Th1	F2
9:00	LPN I		Session II begins		
10:00	LPN I				
11:00	LPN I	Observation	Observation	Observation	Observation
12:00	(LPN I)	and	and	and	and
1:00	Machine I	Optional	Optional	Optional	Optional
2:00	Machine I	Counseling	Counseling	Counseling	Counseling
3:00	Secretary I	Secretary I			
4:00	(Secretary I)	(Secretary I)			LPN I ends.

	M5	T6	W7	Th8	F9
9:00				Secretary II	Drafting II
10:00				Secretary II	Drafting II
11:00				Secretary II	Drafting II
12:00				(Secretary II)	(Drafting II)
1:00	HOLIDAY	LPN II		Welding II	Machine II
2:00		LPN II		Welding II	Machine II
3:00		LPN II		Welding II	Machine II
4:00		(LPN II)		(Welding II)	(Machine II)
			Welding II ends Secretary II ends Machine II ends	Drafting II ends	Auto II ends

	M12
9:00	Auto
10:00	Auto
11:00	Auto
12:00	(Auto)
1:00	Auto
2:00	Auto
3:00	Auto
4:00	Auto

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4. Buros, Oscar K. (ed.) The Seventh Mental Measurement Yearbook. Highland Park, N.J.. Gryphon Press, 1972.

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13. Williamsport Technical Institute. "Vocational Diagnostic Program." Williamsport, Pennsylvania: Williamsport Technical Institute, n.d.

The reader is advised to also consult catalogs of test publishers, and test manuals as well for detailed information concerning the design and utility of the various instruments which were reviewed.

Major publishers: The Psychological Corporation,
New York, N.Y.

Consulting Psychologists Press
566 College Avenue
Palo Alto, California 94306

Science Research Associates, Inc.
259 East Erie Street
Chicago, Illinois 60611

FINDINGS

(Phase IV: Conduct of the test. During the Summer of 1976, prospective students participated in this project that was conducted over a three-week period.)

Conduct of the Test

(1) The Participants

Thirteen qualified applicants were selected for the project. Two of these attended so few times that no results were obtained. On the first day, one person dropped out of the group to enroll as a regular student at IVY Tech - South Bend. Profiles of the ten participants follow. The information about them includes: Sex, age, marital status, education, previous jobs held, highest and lowest FIT scores, FIT scores for the cluster(s) of sub-tests designed to be used for each work-study sample, the work/study sample)s) which were selected and performed, instructor's general evaluation of performance of each work/study sample, and indicators from clients about what kind of work they would like to do and not to do, and why occupation of parents and relatives.

CLIENT A

Sex: Female Age: 19 Marital Status: single

Education: High School

Previous jobs: U. S. Navy: Radar Operator, Radio Teletype Log Keeper (LIKED)
Nursing home housekeeper (DISLIKED)

Highest FIT Scores (percentiles: 12th grade norms)		Lowest FIT Scores	
Assembly	99	Coordination	24
Components	99	Expression	43
Inspection	88		
Scales	87		
Vocabulary	84		

Work/Study Sample FIT Cluster Scores:

Secretary		Drafting	
Memory	---	Precision	64
Judgment & Comprehension	66	Scales	83
		Patterns	77
Expression	43	Components	99
Vocabulary	84	Mechanics	80
Scales	83		
Tables	60		
Average	67		

Work/Study Sample I: Secretary: performance: above average

Work/Study Sample II: Drafting: performance: did not complete

Want: "working with numbers, operating equipment (not medical), technician, because I enjoy doing this."

Father's Occupation: Electrician for the Railroad

Mother's Occupation: Factory Worker

Relatives' Occupations: Factory Workers

CLIENT C

Sex: Male Age: 19 Marital Status: single

Education: High School

Previous Jobs: Wire Marker (OK)
General labor work (DISLIKED)

Highest FIT Scores (percentiles: 12th grade norms)

Assembly	99
Scales	96
Components	94
Coordination	87

Lowest FIT Scores

Vocabulary	24
Inspection	54
Mechanics	65

Work/Study Sample FIT Cluster Scores

Drafting

Precision	84
Scales	96
Patterns	84
Components	94
Mechanics	65
Average	84

Work/Study Sample I: Drafting: Performance: above average, some outstanding

Work/Study Sample II: Drafting: Performance: above average, some outstanding

Want: "drafting houses and mobile homes because I enjoy drawing house outlines at home."

Mother's Occupation: Housewife

Relatives' Occupation: hospital kitchen workers

CLIENT D

Sex: Male Age: 20 Marital Status: single

Education: High School; 16 hours of college (math, English, economics, computer science)

Previous Jobs: Supervisor for C.E.T.A. (LIKED)
Garage Work (OK)
Installation of swimming pools and patios (OK)

Highest FIT Scores (percentiles: 12th grade norms) Lowest FIT Scores

Assembly	98	Inspection	28
Precision	80	Coordination	40
Mechanics	74	Patterns	44
Tables	73		

Work/Study Sample FIT Cluster Scores

Drafting

Precision	80
Scales	56
Patterns	44
Components	70
Mechanics	74
Average	65

Work/Study Sample I: Drafting Performance: average/above average

Work/Study Sample II: No choice; work schedule was changed.

Want: "outside preferably, something where I'm my own boss or work where I have my own decisions because I don't like to be told how to do things and amount of production I have to put out."

Do not want: "factory related jobs."

Mother's Occupation: Works for C.E.T.A.

Father's Occupation: Works for Wheelhorse

Relatives' Occupations: Sales for Robertson's
Garage door business

CLIENT E

Sex: Male Age: 23 Marital Status: single

Education: 9th grade, some night school

Previous jobs: Machine maintenance (LIKED)
Stockman (OK)

Highest FIT Scores (percentiles: 12th grade norms)		Lowest FIT Scores	
Coordination	74	Inspection	20
Mechanics	74	Assembly	21
Precision	64	Tables	24

Work/Study Sample FIT Cluster Scores

Machine Tool Technology	
Inspection	20
Precision	64
Assembly	21
Coordination	74
Mechanics	74
Average	51

Work/Study Sample I: Machine Tool Technology: performance: above average/ outstanding

Work/Study Sample II: Welding: performance: did not complete because of conflict with work

Want: "machine set-up, machine maintenance, plumbing, because I like the work."

Father's Occupation: Deceased

Mother's Occupation: Union representative

CLIENT F

Sex: Female Age: 25 Marital Status: married

Education: High School; One year of junior college.

Previous Jobs: Store cashier (LIKED)
Factory (DISLIKED)

Highest FIT Scores (percentiles: 12th grade norms)		Lowest FIT Scores	
Assembly	99	Expression	12
Components	96	Judgment-Comprehension	31
Tables	73	Coordination	31
Mechanics	70	Precision	36

Work/Study Sample FIT Cluster Scores

Secretary	
Memory	---
Judgment-Comprehension	32
Expression	12
Vocabulary	68
Scales	56
Tables	73
Average	49

Work/Study Sample I: Secretary: Performance: above average

Work/Study Sample II: no choice--travel difficulty

Want: "bookkeeping or general office work because I like keeping records and working with figures."

Do not want: "nursing, factory, auto, because I don't have a bed-side manner. I tried factory work and I don't like dirt or I don't have the muscles."

Mother's Occupation: Homemaker

Father's Occupation: Laborer, farmer

Relatives' Occupations: sister: grocery store
brother-in-law: tool and die
cousin: school teacher

CLIENT G

Sex: Male Age: 29 Marital Status: married

Education: High School

Previous Jobs: Farm Machinery Set-up Man (LIKED)
Retail Clerk (OK)

Highest FIT Scores (percentiles: 12th grade norms) Lowest FIT Scores

Highest FIT Scores		Lowest FIT Scores	
Components	98	Scales	17
Assembly	93	Tables	18
Mechanics	84	Precision	36

Work/Study Sample FIT Cluster Scores

Drafting	
Precision	35
Scales	18
Patterns	44
Components	98
Mechanics	84
Average	56

Work/Study Sample I: Drafting: Performance: Average

Work/Study Sample II: no appropriate choice. Job came up.

Want: "any part of construction work because I enjoy this kind of work and would like to make a career of it."

Do not want: "Industrial, secretarial, because I'm not the secretarial type and the factory is too hot and dirty."

Parents' Occupation: deceased

Relatives' Occupation: brother: tool & die
brother-in-law: machinist
father-in-law: laborer

CLIENT H

Sex: Female Age: 45 Marital Status: married

Education: High School, 82 college credits

Previous Jobs: Factory (DISLIKED)
Nursing home aid (LIKED)

Highest FIT Scores (percentiles: 12th grade norms) Lowest FIT Scores

Highest FIT Scores		Lowest FIT Scores	
Components	93	Expression	16
Vocabulary	90	Inspection	18
Assembly	70		
Judgment Comprehension	66		

Work/Study Sample FIT Cluster Scores

Secretary		LPN	
Memory	---	Memory	---
Judgment-Comprehension	66	Scales	40
Expression	16	Judgment-Comprehension	66
Vocabulary	90	Average	53
Scales	40		
Tables	30		
Average	48		

Work/Study Sample I: Secretary: Performance: above average/outstanding

Work/Study Sample II: LPN: Performance: average

Want: "not sure, maybe office work if not routine."

Do not want: "factory work"

MOther's Occupation: farmer

Father's Occupation: farmer

CLIENT I

Sex: Male Age: 19 Marital Status: single

Education: high school

Previous jobs: supermarket (OK)

Highest FIT Scores (percentiles: 12th grade norms) Lowest FIT Scores

Assembly	95	Mechanics	28
Components	92	Vocabulary	20
Patterns	77	Scales	40

Work/Study Sample FIT Cluster Scores

Drafting	
Precision	64
Scales	40
Patterns	78
Components	92
Mechanics	28
Average	60

Work/Study Sample I: Drafting: Performance: average

Work/Study Sample II: Welding: Performance: did not attend (arrested)

Wants: "sheet metal or factory work because I have worked with sheet metal."

Mother's Occupation: Ziker cleaners

Stepfather's Occupation: U. S. Customs Agent

Sister's Occupation: retail sales clerk

CLIENT K

Sex: male Age: 17 Marital Status: single

Education: still in high school

Previous jobs: restaurant (OK)
construction (OK)

Highest FIT Scores (percentiles: 12th grade norms) Lowest FIT Scores

Highest FIT Scores		Lowest FIT Scores	
Mechanics	80	Patterns	4
Coordination	52	Assembly	10

Work/Study Sample FIt Cluster Scores

Welding	
Coordination	52
Inspection	18
Precision	20
Average	30

Work/Study Sample I: Welding: Performance: average/above average

Work/Study Sample II: Auto Service: Performance: did not attend

Wants: "not really sure."

Does not want: "not sure; want to find out."

Mother's Occupation: Housewife

Father's Occupation: works at Bendix

Relatives' Occupation: grandparent works at Whirlpool

CLIENT L

Sex: Male Age: 21 Marital Status: single

Education: High School

Previous Jobs: Tube bender (OK)
Supermarket (OK)

Highest FIT Scores (percentiles: 12th grade norms)		Lowest FIT Scores	
Mechanics	90	Scales	10
Precision	76	Assembly	13
Inspection	52	Components	24

Work/Study Sample FIT Cluster Scores

Welding		Auto Service Technology	
Coordination	32	Inspection	56
Inspection	56	Precision	76
Precision	76	Assembly	14
Average	55	Patterns	16
		Components	24
		Mechanics	90
		Average	46

Work/Study Sample I: Welding: Performance: average

Work/Study Sample II: Auto Service: Performance: above average/outstanding

Want: "something which would fit any abilities such as welding, auto body work because I've had 2 years of high school experience in this already.

Mother's Occupation: housewife; patrol-crossing guard

Father's Occupation: self-employed--restaurant manager

CLIENT M

Sex: Female Age: 30 Marital Status: married

Education: High School

Previous Jobs: Check-out and stock person at supermarket
Kitchen help at Burger Chef

Highest FIT Scores (percentiles: 12th grade norms) Lowest FIT Scores

Highest FIT Scores		Lowest FIT Scores	
Inspection	96	Vocabulary	8
Coordination	74	Expression	12
Components	64	Assembly	21
		Mechanics	4

Work/Study Sample FIT Cluster Scores

LPN	
Memory	---
Scales	18
Judgment-Comprehension	26
Average	22

Drafting	
Precision	50
Scales	18
Patterns	54
Components	64
Mechanics	5
Average	38

Work/Study Sample I: Licensed Practical Nurse: Performance: above average

Work/Study Sample II: Drafting: Performance: average

Want: "Nursing, working with people, maternity/operating room."

Do not want: "Secretarial, anything that uses vocabulary/English."

(2) The Work/Study Samples

All work/study samples were chosen at least once, and all were executed at least once. One session of Auto Service Technology was conducted. One person completed it. (Two others had chosen it but had dropped out of the project before the scheduled time.) The session went essentially as planned.

One person completed the first session of LPN and one person completed the second, although three persons had originally signed up for the second session. The first session sample was highly individualized and tutorial. The participant not only visited a nursing home and worked on patients, as planned, but also, because of expressed interest, visited a local hospital and actually witnessed surgery in progress. As a consequence of this highly personalized experience, this person subsequently indicated a desire to enroll in the LPN program at IVTC-South Bend. The second session was conducted essentially as planned.

One person signed up for each session of machine tool technology. The first completed the work/study sample with great interest and vigor. Upon his own request, he was taught how to use several machines. Subsequently, he said he would enroll in the machine tool program at IVTC-South Bend. The person scheduled for the second session did not show up.

Four persons signed up for the first session of drafting. They all completed it. Three persons signed up for the second session; two completed it. The instructor was not the same as the instructor who had helped design the work/study sample. Although the sessions were conducted more or less as planned, the original schedule does not appear to have been followed down to the last detail. The experience was so positive for one person, however, that he signed up for a repeat session and indicated an interest in enrolling in the drafting program at IVTC-South Bend. The repeat session was allowed because the person had only one eye and the other choices simply were inappropriate for a number of reasons.

Three persons signed up for the first session of the secretary work/study sample. All completed it, just as planned. None signed up for the second session.

Four persons chose the first session of welding. Two completed it as planned. One showed up for only one day. One never showed up. Two persons signed up for the second session. Neither were able to attend. The first session was a bit hectic because of unusually high enrollment in the course. This seemed not to particularly bother the instructor or the participants, however, and is thought not to be related to the reason the second session schedulees did not appear.

Several reasons emerged why people did not attend either a day's session or an entire work/study sample.

-One person was ill one day. Other reasons were:

-One person was arrested the day after completing the first work/study sample.

-At least two persons who did not have jobs at the start of the three-week session had one come through and were forced to take it.

-One participant's work schedule originally worked out so as to allow for attending the Vocational Diagnostic Program--was changed by the employer, forcing the participant to withdraw.

-At least three participants were not offered a suitable second choice because of the small number of choices available--small even compared with the total number of different programs offered at IVTC-South Bend.

EVALUATION

(Phase V: Evaluation. Although evaluation will be conducted continuously throughout the duration of the project, Phase V consists of the assembly of outcome measures and the preparation of the project report to include all of the instruments and procedures that were developed.)

(1) The Utility of the Paper and Pencil Instruments

No statistical tests can be applied to the relationship of test scores with participant performance of the Work/Study samples because the number of subjects is much too small. Performance in the various Work/Study samples is compared below with the average of scores on the cluster of Flanagan Industrial Tests selected for each Work/Study sample.

Work/Study Sample	Performance	Average FIT Cluster Scores	Client
Secretary	above average; average	48	H
	above average	49	F
	above average	67	A
Drafting	above average; some outstanding	84	C
	average/above average	65	D
	average	60	I
	average	56	G
	average	38	M
Machine Tool	above average/outstanding	51	E
Auto Service Technology	above average/outstanding	46	L
LPN	above average	22	M
Welding	average/above average	30	K
	average	55	L

There is a generally direct and positive relationship between scores on the appropriate FIT cluster and performance in Drafting, the only Work/Study sample that was completed by enough people to show a pattern. Nonetheless, there are only five subjects, clearly insufficient for determining statistical significance.

Various valuable functions were nevertheless performed by the paper-and-pencil tests, even though predicting performance was not one of them. The

Holland Self-Directed Search performed education and information-giving functions. Persons learned something about themselves and were forced just by the act of taking the test to consider a wide range of occupational possibilities. They were also presented an idea of the vast range of occupations that exist, and a systematic method for learning about them and making tentative choices. While discussing the Holland results in the counseling sessions with each participant, other resources related to the Holland data were described including the Dictionary of Occupational Titles and the Indiana Career Resource Center. At least one participant is known to have consulted both resources in response to this feature of the counseling session.

The Flanagan Industrial Tests acted as motivators. Everyone scored high on some of the sub-tests. The results were presented during counseling in a manner that emphasized and focused upon these areas of strength, talent, skill, and high apparent aptitude and the possible course-of-study or occupational implications they suggested. Low scores were discussed also, but in a manner that "completed the picture," or suggested possible limitations or areas for improvement. Even the low scores were handled in a generally positive (yet realistic) manner. More than one client commented on the good feeling of increased confidence in themselves they felt upon being presented the FIT results in this positive fashion.

Were the Flanagan Industrial Tests to be administered on a routine basis to all students at IVY Tech after they are enrolled, validation studies could be made, and the predictive strength of the tests could be determined in a way that would be most useful--on the basis of local norms. Without such extensive routine use it is doubtful that either [illegible] rIT or any other paper-and-pencil instrument tests can be used for the purposes of predicting performance in various courses of study at IVY Tech or in various occupations following that.

Evaluations of the Vocational Diagnostic Project by Participants and Participating Faculty.

Listed below are verbatim comments by the participants made either during the normal course of counseling sessions or in response to specific questions.

POSITIVE COMMENTS BY PARTICIPANTS

Some of these comments were made in the course of discussions, others were made in response to the questions: "What did you particularly like about the vocational diagnostic program?" or "What are the most important benefits you received from the Vocational Diagnostic Program?"

Comments tend to focus upon how pleasant, helpful, and involved the faculty were and with the value of being able actually to try something for one's self.

-"Very nice. I liked it. I'm getting a lot out of it just coming here and seeing what it's like."

-"It's a good program. It would be helpful to other people, too,"

-"I liked finding out about different things. The people here were real nice."

-"I liked...actually doing some of this stuff. If you really are interested in something, you can stay on it as long as you want."

-"As far as the program itself, it's an excellent idea. It's helped me a lot. I learned how to use my welding tools. I learned a lot in Auto."

-"It's a good school. The teachers are involved, helpful."

-"I think it's good. Finding out what you're interested in. Interesting. It was worth it."

-"Liked the opportunity to go to class. I wanted to try it myself to see how it's taught and all that. The tests kind of helped me. What I'm better in and what I have to improve in."

-"Everything kind of tied in with what they are teaching here."

-"They treat people like they are individuals here."

-"I liked the opportunity...the program is nice."

-"I like it. It kind of blends everything together you would do in an office."

-"I learned how to read a micrometer - I've never done that."

-"I never worked on a lathe before. I learned a lot."

-"I want to get as much knowledge as I possibly can. This program I mean it's pretty good."

-"She (faculty) was very nice...she taught me a lot."

-"...the first course I took, I liked that. That was done right. She did a good job; she showed me the inside and the outside. That was pretty good."

-"Well, I didn't know what I wanted to do and this just seems like a God-send."

-"...I liked the whole thing...the chance to find out what it's really like. I mean it's actually doing it. Not sitting there, walking around, taking notes on what they're doing. You just got right in there with the class."

-"It helped me make up my mind, to find out what it's really like."

-"The instructors, they were nice. Considering we had to have a little special most of the time for certain things, take them out of their other classes, they don't seem too upset by it."

POSITIVE COMMENTS MADE BY PARTICIPATING FACULTY

Some of these comments were made in the course of discussion, others were made in response to the questions: "What did you particularly like about the Vocational Diagnostic program?" or "What are the most important benefits you or your department received from the Vocational Diagnostic Program?"

As is the case with the participants, the faculty comments also tend to focus upon the value of persons being able to experience something for themselves, to get a real taste of a line of work or study. In addition, several mention the apparent strong motivation of some of the participants who were conscientious, full of questions, eager to learn.

-"From what I've seen it's a good way of looking at entrance for these people due to the fact that they actually can get right in and see what's happening and what's being done and what has to be done, how they feel about it as far as careers are concerned--if this is something they would like to do for the rest of their lives."

-"I think if it was even established it would be a good thing, because it gives the kid an idea of whether he might like the field rather than going into it blind, spending his money and then he's locked into something that he has to spend the whole quarter there and he's just lost that money down the drain. This way he comes in for a week and usually if a fellow knows where he's going, he'll know in that week's time whether he's going to particularly care to spend some money on trying to learn this particular field. So I think it would be well worthwhile if it's adopted."

-"I was really impressed with the two fellows in the first program, the way they dug right in, the way they fitted into our concept of doing things....These guys wanted to get into it so it really was no problem with them, in fact it was a good thing because they were paying attention when they were into the tapes. When they came in they had questions to ask, you didn't have to prod them along into the questions. They asked the questions. So this impressed me, I liked this part of it."

-"...I think everything was put together very well, very well."

-"...you did have people that were definitely without knowledge of what some of the vocations entailed. This one person in particular didn't even know what I was talking about to draft. Had no conception, so I thought this was particularly good."

-"I think they did exceptionally well in the short time they were here. They really covered just a few basic things, of course. But I think they did remarkably well. On the packet we gave them they did very well."

-"They seemed to work hard. Most of them were here all the time."

-"I like the fact that I had time to prepare for it."

-"I liked the fact that it seemed well-rounded."

-"I think it's a good program. The student gets introduced to different areas that we have offered here at IVTC instead of spending the money and just wasting it he only spends three weeks in machine lab and those other things. I think that's good. I wish I would have had something like that. Maybe I wouldn't have wasted...I threw away a few courses in college just because I really didn't know what I wanted to do."

CRITICAL COMMENTS AND SUGGESTIONS FOR IMPROVEMENTS BY PARTICIPANTS

Some of these comments were made in the course of discussion. Others were responses to the question: "What did you particularly dislike about the Vocational Diagnostic Program?" or "What features of the Vocational Diagnostic Program should be changed?" "In what way should they be changed?"

Several suggestions are made. Most importantly, the desirability of offering more choices in work/study samples is often mentioned. Offering the program at night to allow more persons to attend is proposed. The notion that a charge, say $25, be made is suggested as a means of assuring better attendance and of meeting the cost of materials.

Offering the program often instead of once is suggested, as is the need for widespread publicity, more than is thought to have occurred during this experiment.

-"Could expand the choices some. You had what I wanted to look into."

-"Some of the tests were a little bit wierd."

-"I would like for it to be longer."

-"More choice...should have more fields open."

-"Maybe your ad in the paper you should change. It wasn't very good. A lot of people didn't even know about it. My friends, none of them... Some of them want to do something but they don't know what they want to do either."

-"Probably a night course would be good for a lot of working people."

-"I wish you could have offered all of the fields. There was one I was interested in, but..."

-"It's a chance you can't do this maybe two times each quarter."

-"The program seems to be set up just fine, if it could just be more often. I myself, even if you guys charged $25 for the classes, not each class, but each session, $25 that's not even rough at all. It would help you guys (to even the cost of tests and materials)."

CRITICAL COMMENTS AND SUGGESTIONS FOR IMPROVEMENTS BY PARTICIPATING FACULTY

Some of these comments were made in the course of discussion. Others were responses to the questions: "What did you particularly dislike about the Vocational Diagnostic Program?" or "What features of the Vocational Diagnostic Program should be changed? In what way should they be changed?"

Comments tended to be similar to those made by participants regarding the desirability of offering more choices of work/study samples, providing more publicity to secure greater attendance, and charging a fee to assure faithful attendance and to support the expenses of the program.

In addition, scheduling sessions differently is suggested by more than one faculty member. Specifically, it is thought that it would be better to offer the program at a time other than the first week of a term to make it possible for faculty to spend more time with the participants instead of with the members of the regular class (which this time often got the priority personal treatment that is needed at the beginning of a course). Scheduling sessions on a Monday through Friday basis to avoid the interruption of a weekend is also considered advisable. Finally, a question is raised regarding how to reach non-motivated persons in the community in addition to the obviously motivated people who largely were the participants in the experiment.

-"I think each student should be exposed to more than one area because this gives them a chance to actually see whether they are interested or not in more than one area."

-"...we're probably not reaching the people that we should be reaching that have no motivation...We're dealing with the cream of the crop."

-"It was a little inconvenient in this--and this only--that we had sixteen new people come in that same week. We had our classroom occupied by the masons for the first hour and a half in the morning, so we were a little congested that first week."

-"The only thing I'd suggest that you could change would be some way to get them in after the first of the week instead of in the middle of the week. It breaks their week up a little bit. Sometimes a guy gets right into something and then he's off for two days. Particularly in the beginning you're trying to get a point over to him and he loses it for two days. You have to back up on it and go over some areas that you wouldn't have had to if he had been there five straight days...I didn't like that too well."

-"It would be very good if it would become something that they would set up for Monday through Friday with no break."

-"I disliked it on my own part because I didn't have the time to structure. I had other classes going on and I was back and forth with the class and other responsibilities. I didn't have the time that I felt I needed to try to kick it off."

-"I would suggest that they be tested at the middle of the quarter. They came at the beginning of a quarter when we just started with new students and I know it was hard to spend time with them."

-"...it was not well attended. But I think more publicity might help."

-"I feel it's too expensive to do this on a one-to-one basis. And so I'd like to see a larger group if it's ever done again...Possibly as an evening-type program with so many of them working in the day."

-"I would like to see--just as one quickly brought-up suggestion here--that perhaps there would be some time that people who were wondering about this could sit in on a class. Go through a day with the class rather than have an individual thing. It would be cheaper, and they might be confused if they came in late in the program, but in the beginning..."

-"What you should do is charge for it in advance and they'd more likely be here."

-"The time was an element too...One week and then part of another: five days? Say if it was ten or fifteen days...because there's a lot to cover.

(2) Follow-up on Participants Six Months Later

A total of four of fourteen who started the Vocational Diagnostic Project were enrolled as students at Indiana Vocational Technical College six months after the Vocational Diagnostic Project.

Client A. During the six months following the WSS, Client A was "still at American Home Foods, laid-off every other month, studying for Missionary Papers with Independent Spiritualist Association. Will test in March." Six months after the WSS, Client A was laid off, studying part-time with the Independent Spiritualist Association to be a missionary. When employed, Client A is a line attendant in a food packing factory, working on the line.

Client B. Client B did not participate in any WSS.

Client C. During the six months following the WSS, Client C was "employed at Robertson's (department store) and going into the army reserve, taking auto mechanics." Six months after the WSS, Client C was a full-time student earning a B average at IVY Tech-South Bend, studying Architectural Drafting; and was employed part-time as a janitor.

Client D. No response to follow-up.

Client E. During the six months following the WSS, Client E "worked for a print shop." Six months after the WSS, Client E was employed full time as a machine operator in a bindery.

Client F. During the six months following the WSS, Client F "stayed home and not worked nor had any further schooling because of money and children. Beside no jobs open that interest me. I plan to go back to school this year." Six months after the WSS, Client F was unemployed, except as a housewife.

Client G. During the six months following the WSS, Client G was "employed (same job as before) did not complete any courses." Six months after the WSS, Client G was still a painter. His wife writes: "Since doing your test (Client G) has built up the nerve to venture out in construction. He has plans of retiring from his present employer in August and going full time into construction."

Client H. During the six months following the WSS, Client H did "unpaid political campaigning--school bus driving--in December, drove Senior Citizen van (4 hours a day, one month). School: 1st semester: Notre Dame - Mental Outreach for the elderly." Six months after the WSS, Client H was a part-time student at Notre Dame studying Mental Outreach for the Elderly, and driving a school bus part-time, and being a part-time secretary in a surveyor's office.

Client I. No response to follow-up. (Had been arrested during WSS.)

Client J. Did not participate in the WSS.

Client K. Still in high school full-time.

Client L. During the six months following the WSS, Client L was "hired by a precision machine shop...and due to my part, laid off for my uninteresting attitude towards factory work." Six months after the WSS, Client L was unemployed.

Client M. Six months after the WSS, Client M is enrolled as an Associate's Degree candidate at Indiana Vocational Technical College at South Bend--earning a B average--and is also employed full-time at the school as a paraprofessional aid to faculty and staff in Business Science.

One person enrolled in Indiana Vocational Technical College at South Bend after the first day of the Vocational Diagnostic Project, and as a consequence of the exposure she had to the school during the application and orientation process.

One client who participated in the application, orientation, and testing phases of the project, but not the Work/Study samples, also subsequently enrolled in IVTC-South Bend as a consequence of the Project.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions:

1. Work/Study samples are a desirable, practical method for providing prospective students an experience in the nature of instruction and the environment in a selected occupational area prior to enrollment in a specific occupational training program.
2. Work/Study samples can be an invaluable and economical selection device for both prospective students and for an educational institution's recruitment/admissions program.
3. Currently existing paper-and-pencil instruments that are available to discern student interest in occupations at best provide limited information and even more limited bases for occupational choice.
4. A combination of paper-and-pencil instruments, work/study sampling, and counseling appear to be able to enhance the possibility of an individual's making a valid educational and/or occupational choice, particularly if this activity were to be available to an individual at any time of life.
5. A combination of paper-and-pencil instruments, work/study sampling, and counseling appears to be able to enhance the reliability and validity of a vocational-technical post-secondary institution's recruiting, selection, and admissions process.
6. The value of exploration and experience appears to be fundamental to valid educational or occupational choice. At the beginning of the project, nearly all participants indicated a desire to work in occupa-

tions they already knew about from experience, and not to work at occupations they already knew about from experience.

Recommendations:

1. Establish a Vocational Diagnostic program at Indiana Vocational Technical College campuses by means of an on-going program of Work/Study Sampling which also incorporates paper-and-pencil tests, counseling, flexible scheduling, wide choices of educational/occupational area, and a modest fee to cover costs of materials.
2. Prospective students who appear uncertain, confused, or not motivated should be offered the opportunity of participating in a vocational diagnostic program. It appears that time, money, and other resources can be saved by both Indiana citizens and by Indiana Vocational Technical College as a consequence of fewer persons taking inappropriate courses which they will either fail or not complete, and of more people deciding--correctly--not to wastefully attend courses in which they will not be successful.
3. Perform a validation study of selected paper-and-pencil instruments for at least a five-year period on all full-time students at Indiana Vocational Technical College.
4. Counseling and Guidance programs and personnel should be augmented at Indiana Vocational Technical College campuses, not as a means of merely providing additional frivolous services, but as a means of better--and more efficiently--performing a central mission of the institution--to prepare people for work.

5. Little, if any literature exists in the area of vocational diagnosis in the sense the term is used in this project. Funding agencies can make significant contributions to the fields of vocational education and career guidance by supporting research efforts which will produce publications.